NATIONAL PETROLEUM NEWS

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DETROIT

TECHNOLOGY DEPT:

Congressmen Press for Crude Price Increase

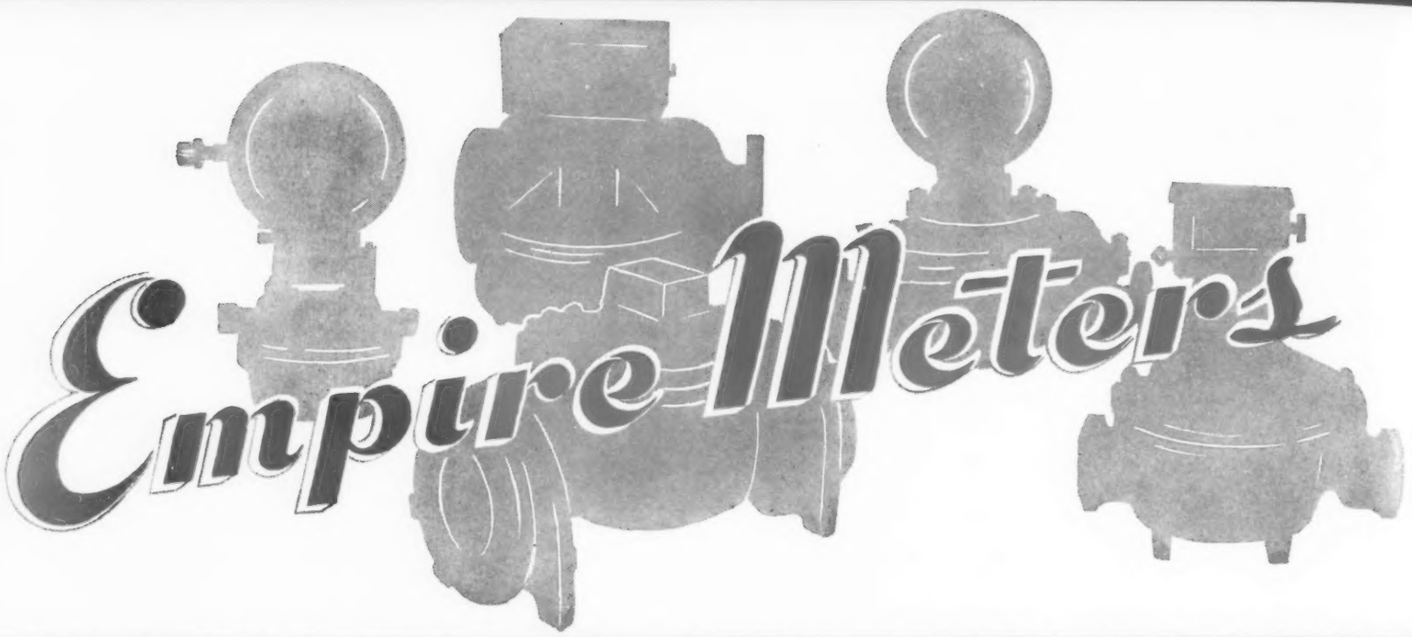
Congressional hearings develop case for higher prices amid flurry created by PAW Ickes' recommendation for an increase. Brown, Pike, Ickes testify; both sides of Congress plan meetings on strategy. Actions by congressmen (P. 3); congressional hearings (P. 7); text of Ickes' recommendation (P. 8); text of memorandum on the recommendation (P. 9).

A STUDY IN EXPRESSION. PAW Ickes (right) tells Patman committee: "OPA says it's a poor time now to ask for a crude price advance. Well, as far as OPA is concerned it has been a poor time for the past 2 years." Sumner Pike (left), OPA oil price chief, counts specks on ceiling; Ralph Davies is impassive

PRODUCERS GLARE AT PIKE as he tells congressional committee his views on crude oil price advance. Standing in background, along wall under chandelier, are several of Mr. Pike's assistants from OPA, including Page Keeton, Orville Judd and Michael Joel. Price is never high enough for producers, said Pike

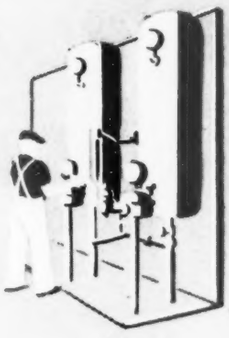
QUESTIONS came at Pike so fast he didn't have time to light his cigarette at the Patman hearings

PAW ICKES GETS A LAUGH as he takes a crack at Price Administrator Brown (far left with a cigar in mouth. He didn't laugh) for dodging questions on PAW's crude price recommendation. Mr. Brown had suggested asking Mr. Ickes what PAW had recommended to OPA. Said Mr. Ickes: "I don't know much about political amenities but sometimes that's called passing the buck." Note: recommendation got into the record



REFINERIES USE METERS TO CUT COSTS

PRODUCTION DEPARTMENTS USE EMPIRES



To check the efficiency of liquid consuming, circulating or producing equipment . . . To eliminate time-wasting methods of liquid handling . . . To improve products by accurate control of liquid ingredients . . . To prevent loss of valuable liquids through carelessness, inefficiency or theft.

COST DEPARTMENTS USE EMPIRES

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NPN's WASHINGTON DIRECTORY of Oil Agency Headquarters

Following is a partial list and directory of governmental agencies in Washington dealing with matters affecting the oil industry. (List is as accurate as possible but is only tentative as room and phone numbers are constantly changing.)

Abbreviations code: Rm for room; Ex for phone extension.

Office of Petroleum Administration for War

New Interior Bldg., 18th and C Sts., N.W.

Phone REpublic 1820

General Information—**Mrs. Rosalie E. Reid,** Rm 6635, Ex 3429-4820.

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Grover Rees, special legal assistant, Rm 4227, Ex 2568.
Howard L. Freeman, materials specialist, Rm 2216, Ex 4461.
Martin J. Gavin, chief foreign refining section, Rm 4222, Ex 4875.
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Malvin R. Mandelbaum, principal attorney, refining div., Rm 5328, Ex 3546.

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Joseph A. Winterberger, chief of tank car section, Rm 5325, Ex 4744.
Boyd Wilson, chief, rail transport. section, Rm 5423, Ex 4620.
S. D. Archbold, chief of inland waterways section, Rm 5319, Ex 4333.
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Liaison agent between Army Department and OPC, Rm 4D577, Ex 5042, Pentagon Bldg., Arlington, Va., REpublic 6700.

Office of Defense Transporation

Interstate Commerce Commission Bldg., Constitution Ave, & 12th St., N. W., Phone REpublic 7500.

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A. V. Bourque, associate director, tank car service section, Rm 4318, Ex 75407.
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U. S. Tariff Commission

7th & F St., N.W., Phone NAtional 3947.

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E. W. Greb, Deputy director of salvage branch, 9th floor Gas & Light Bldg., Ex 72398.
R. T. Lawrence, oil unit head, 9th floor WGLB, Ex 72355.

Rubber Administrator, New Municipal Bldg.
William Jeffers, Rm 5016, Ex 3256.
Bradley Dewey, Deputy Rubber Administrator, Rm 5005, Ex 2455.

Congress

Congressional Oil Investigating Committee "Lea Committee"
Rep. Clarence F. Lea, Calif., chairman, New House Office Bldg., Rm 1535, Ex 699.

Senate Oil Shortage Investigating Committee "Maloney Committee"
Sen. Francis Maloney, chairman, Senate Office Bldg., Rm 354, Ex 1196, Phone NAtional 3120.

Petroleum Industry War Council

Rm. 919 Commonwealth Bldg., 1625 K St., N. W., Phone DIstrict 2820.
William R. Boyd, Jr., chairman.
Allan H. Hand, secretary-treasurer.

U. S. Maritime Commission

Rm 4613, Ex 87, 88, 89.
B. B. Jennings, director of tanker operations, War Shipping Administration. Commerce Department, Phone REpublic 6620.

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A. Rodger Denison . . . Heads Geologists Association

A. Rodger Denison, newly-elected president of American Assn. of Petroleum Geologists, was born in Oklahoma City June 7, 1897, attended public schools while Oklahoma was still Indian Territory, and completed high school after it had become a state.

He received his B.S. in 1921 from Oklahoma University, held a fellowship in geology there for a year, joined Amerada Petroleum Corp., Tulsa, as geologist in 1922, and returned in 1925 on leave from Amerada to complete his M.S. That year, Amerada promoted him to district geologist. In 1927 he was made division geologist with assignments that took him from Tulsa to Enid and Seminole, Okla., western Kansas, and San Angelo and Fort Worth, Tex.

On his 40th birthday, in 1937, he was called back to Tulsa to become Amerada's chief geologist, which he is today. The Amerada, according to its 1942 financial report, owns full or part interest in 983,000 acres in Oklahoma, Texas, Louisiana, New Mexico, Kansas, Mississippi and California, on which it has 1600 oil and gas wells which produced 11,720,490 bbls. of crude last year.

Mr. Denison served as secretary-treasurer of the A.A.P.G. in 1929. He is married, has a son and daughter. His hobby is motion-picture making and he concentrates on geological travelogs.

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Oil Price Caucus

Both Houses of Congress Plan Meetings To Study Future Action on Problem of Getting a Crude Price Increase. Many Believe Ickes' Recommendation is Weak

BULLETIN

WASHINGTON—The Patman Small Business Committee April 20 backed up PAW Ickes' recommendation for an average overall boost of 35 cents a bbl. in crude prices and said the increase should be made "without further delay".

In a letter to Speaker Sam Rayburn, Chairman Patman promised an early report but declared the situation "so desperately critical" that the committee wished to submit its recommendations based on the hearing April 14-16.

Shortages of material and manpower in the petroleum industry also should be given "immediate attention and action", the committee declared.

NPN News Bureau

WASHINGTON—An unofficial "caucus" by oil-minded members of both houses of Congress is in the making, engineered by a group of members impatient at the delays that seem ahead for an increase in crude prices.

The "demonstration" promises to be two-pronged. First, to put the heat on Price Administrator Brown for an early and favorable decision on PAW Ickes' recommendation for a price boost. Second, to get Fuels Price Chief Sumner Pike's scalp.

Rep. Leon Gavin, Oil City, Pa., an avowed enemy of OPA "bureaucrats" and particularly "hot" over Mr. Pike's attitude toward a crude price increase, is laying the groundwork for the demonstration.

Date of Meeting Uncertain

When the "caucus" will be held depends on whether Congress gets away for a week's recess April 22, as members of both sides are now planning. If they are successful in whipping pending legislation into shape for a week's getaway then, the meeting will be held off until after the recess.

Members then would be able to "follow through" on whatever course of action the "caucus" decides to take.

The Ickes recommendation is not looked on as a strong case for a price boost. It leaves the advisability of the increase up to Price Administrator Brown and asked for "an early expression of your views".

Seizes on Weak Spot

Mr. Pike, in his memo to Mr. Brown taking the recommendation apart, is quick to seize on the "opening" Mr. Ickes leaves as one of the weak spots. He quotes this paragraph from Mr. Ickes as "the point on which your judgment seems to be most directly and immediately called".

"I am sure you realize the magnitude and the complexity of revising price ceilings to effectuate these general recommendations in a specific and practicable way. It is hardly a task that either of our hardpressed staffs should be asked to undertake unless it is known in advance that your office, in which the power to make the adjustments resides, agrees that some general crude oil advance is justified by the basic facts here submitted. It may be that you will desire to consult with the director of the Office of Economic Stabilization on this point. My views, of course, represent my judgment on the oil situation only. Having weighed these views, you or the director of economic stabilization may deem the risk of an oil shortage less grave than the risk of other possible effects upon the nation's economic structure. If so, under your statutory powers, that is clearly a decision for you, not I, to make."

OPA to Seek PAW—If

Mr. Ickes' recommendation is inclusive in tenor. If Mr. Brown decides that an oil shortage is "less grave than the risk of other possible effects upon the nation's economic structure", then OPA is to come back to PAW for conferences at which their "hard-pressed staffs" would tackle the "complexity of revising price ceilings".

Mr. Pike's comment is that he does not think Economic Stabilizer Byrnes "will react favorably" on the recommendation. Mr. Pike's personal view was that it was "unfortunate" to have such a recommendation at a time when coal wages and higher farm prices were up.

Texans Ask Crude Price Hike At Statewide Hearing

Special to NPN

FT. WORTH—Several hundred oil men here at Texas statewide proration hearing April 16 unanimously approved a resolution for at least a 35c per bbl. increaase in crude prices and lauded the efforts of the Texas Railroad Commission to obtain higher prices.

Treble Damage Action Opens at Superior

Special to NPN

SUPERIOR, Wisc.—Ghosts of the Madison oil cases 6 years ago walked through federal district court here April 19 as Northwestern Oil Co. of Superior opened its suit to collect $2,500,000 in treble damages from 7 major oil companies who, the plaintiff claimed, caused Northwestern to suffer losses by reason of a conspiracy to fix gasoline prices in the Mid-West.

Attorney for the plaintiff, W. P. Crawford, charged in his opening statement before Federal Judge Patrick T. Stone that a conspiracy entered into originally at the Blackstone Hotel in Chicago on Feb. 11, 1935, was responsible for Northwestern's losses. He specifically named H. T. Ashton (Socony-Vacuum), Robert W. McDowell (Mid-Continent Petroleum), and W. P. Jacobi (Wadhams Division, Socony-Vacuum), among the conspirators.

Also representing the plaintiff are Paul E. Hadlick, Washington, D. C., and Ralph E. Burdick, Duluth, Minn. Attorneys for the defendants are David T. Searls, Houston, Tex.; John Zwick, Oklahoma City; Leon Isaksen, Madison, Wis.; and Stanley Ryan, Janesville, Wis.

Conspiracy Denied

Mr. Searls denied a conspiracy was responsible for Northwestern's losses and charged that if the alleged losses were suffered they were passed on to the consumer and thus were not borne by the plaintiff.

Defending companies named in the action are Socony-Vacuum, Phillips Petroleum, Mid-Continent Petroleum, Continental, Pure, Sinclair and Shell.

Fuel Probers

Clark Committee Hears Need for Boost In Fuel Outout; U. S. Restrictions Hit

Special to NPN

KANSAS CITY — Need for action to increase production of fuel and for definite forecast of available supply and military demand in order to plan civilian and industrial consumption for the coming winter was stressed by representatives of federal, state and municipal authorities and of producers' and consumers' organizations meeting in Kansas City, April 15 and 16, at a conference called by Sen. Clark's mid-west investigating committee.

Criticism of restrictive governmental policies as prime cause of fuel shortages and civilian hardships was expressed by many participants. Gov. Schoeppel and Charles L. Orr, representing the governor of Oklahoma, protested on behalf of oil-producing states the handicaps placed on exploration and development of additional petroleum supply by OPA's inadequate ceiling on crude oil prices and WPB's restrictions on critical materials for drillers.

PAW Ickes' recommendation of average 35c per bbl. increase in crude price, revealed during the Friday session, was welcomed as "helpful" but the prevailing comment was "it should have been more".

Gov. Griswold of Nebraska was joined by Mayor Gage of Kansas City in scoring administration of fuel rationing to consumers and ordering of conversions by PAW.

The possibility of using natural gas from Hugoton Field in western Kansas and Oklahoma to supplement supplies of coal and oil was urged by Gov. Schoeppel, if the government would aid in making its resources available to domestic and industrial consumers by construction of a pipeline.

Jobber Brush Off

Comprehensive Study of South Dakota Price Situation Sent to OPA Brings Not Even Acknowledgment of Receipt

NPN News Bureau

CLEVELAND—How J. E. Adrian, secretary of the South Dakota Independent Oil Men's Assn., received a brush-off from OPA on a report covering a comprehensive study of petroleum product prices in his state was described by Mr. Adrian in a letter to NPN of April 16.

Mr. Adrian, around Jan. 10, sent George Doffing, then OPA oil price executive, a detailed letter describing subnormal price areas and listing prices for 3 grades of gasoline, kerosine, tractor distillate and No. 1 fuel oil at nearly 300 points in South Dakota. Mr. Adrian's list, besides "actual" prices for the 6 products at the 300 points, included "necessary" price and the actual price was broken down by "dealer tank wagon" and "country tank wagon". A considerable amount of work was involved.

Mr. Adrian never heard from OPA; "In fact, I didn't get an acknowledgment that my letter and attached schedule were received," he wrote NPN.

Then on April 8 he sent a similar letter to Senators Gurney and Bushfield and Congressmen Mundt and Case of South Dakota. He received almost instantaneous replies.

Mr. Adrian's letters said he had asked Mr. Doffing that, in view of at least a 15% to 25% increase in cost of living and because of higher wages, the 3% transportation tax and the 6% freight rate increase, and further because petroleum prices were frozen before Pearl Harbor, many of them subnormal, some consideration be given to relief from present price ceilings for South Dakota jobbers. He pointed out that in many areas (his list asked specifically for increases on one or more products at 185 out of the nearly 300 points) margins were too low to permit continued essential deliveries to farmers without loss. Eighty per cent of independent jobbers' sales in South Dakota are made direct to farms, he said.

Text of Mr. Adrian's letter to NPN follows:

FROM: J. E. Adrian, secretary, South Dakota Independent Oil Men's Assn., Yankton, S. D. TO: The Editor.

On or about January 10th I sent to Mr. Doffing, price executive for the OPA, schedule of present prices of petroleum products similar to the copy enclosed herewith. I also wrote them a letter citing the need for increased jobber margins in the state of South Dakota, such as higher living costs, increased wages and the losing of experienced help to the armed forces and defense industries, thus making higher wages more expensive due to the fact that they are paid to inexperienced help and a host of other items.

I never received any consideration for submitting this information. In fact I didn't get an acknowledgment that my letter and attached schedule were received. Besides the schedule, which I am enclosing herewith, there was a map of the state of South Dakota on which I had marked the actual price received on country deliveries of third grade gasoline. This map showed the inequalities of the present price ceiling schedules due to the fact that there were some price wars in effect at the time of the price freezing, that those sections of the state were being allowed to buy gasoline and other petroleum products at a low cost while other sections of the state, perhaps only twenty to thirty miles distant, were paying 2 to 3c more per gallon for the same grade of merchandise, which cost the jobber at both points about an identical price.

On April 8th I then sent letters to Senators Gurney and Bushfield and Congressmen Mundt and Case of South Dakota. These letters were identical with the exception that on all four I cited as examples the towns with which the addressed were better acquainted. Replies from all 4 representatives were received. However, as Senator Gurney was a former oil man I believe that he can do us perhaps the most good. As I believe his reply is very good, I am enclosing herewith copy of same.

I perhaps ought to have passed this information on to your good paper previously but in the press of legislative matters, I just didn't have the time. My reason for sending this information to you at this time is to let you know what we in South Dakota have been doing in trying to get better jobber and dealer prices.

Claim 66-90% Steel Saving with Concrete Storage

NPN News Bureau

NEW YORK—Curzon Dobell, general manager of Preload Co. of Canada, Ltd., told an audience of business paper editors and oil company operations managers meeting in the Engineers' Club at New York last week how prestressed concrete storage tanks for petroleum products save steel. The company has erected a total of 400 concrete storage structures.

The company claims 66% to 90% savings in steel used as against conventional steel plate tank (A.P.I.). Maximum savings in steel are claimed for a newer method which uses wire mesh instead of rods for prestressing. Three structures using the wire-mesh principle have been erected and one is in construction.

Comparative amounts of steel required for conventional tanks, for prestressed rod, and prestressed wire-mesh are given in table below.

Two experimental concrete tanks have been built for the U. S. Army for storing gasoline. Tanks are 50,000-gal. capacity; 39 ft. high, with 5-ft. thickness of dirt over dome. One tank has been lined with Thiokol to make it gasoline-tight and other tank is to be lined with a new magnesite base product called "Oilfoil". This product will be painted on with a brush.

Preload engineers report that at the present time Thiokol application is expensive, and conditions of temperature and humidity must be perfect to make proper application of lining.

Construction costs on the Canadian 100,000-bbl. tanks, said Mr. Dobell, cannot be used for comparison with cost of steel plate tanks because much of the Canadian work was done in temperatures as low as 30 below zero and required unusual protection and equipment to maintain 50° temperatures in applying gunite used to fabricate the structures. Generally, however, he said costs would compare favorably.

Comparative Quantity of Steel Required in Oil Storage Tanks

Tank Size I.D.	Tank Size H.	Capacity in Barrels	Steel Plate (A.P.I.) in Pounds	Rods, Mesh, Dowels, Etc. in Pounds	Wire, Mesh, Dowels, Etc. in Pounds	Pounds of Steel Per Barrel of Capacity: Steel Plate Tanks	P.L. Rod Tanks	P.L. Wire Tanks
144'-0"	37'-7"	100,000	850,000	267,000	95,000	8.50	2.67	.95
78'-0"	26'-6"	25,000	202,000	48,000	22,000	8.09	1.92	.88
78'-0"	35'-0"	30,000	235,000	73,000	28,000	7.84	2.43	.93
78'-0"	43'-6"	37,500	300,000	107,000	36,000	8.00	2.85	.96
102'-0"	37'-8"	55,000	411,000	138,000	49,000	7.48	2.50	.89

ODT Hushes Conferences On New Delivery Rule

NPN News Bureau

CHICAGO—Numerous small meetings of Office of Defense Transportation subcommittees are being held throughout the Mid-West to hear an explanation of a proposed ODT order to regulate local deliveries. The press is barred from such meetings by a letter from ODT to the subcommittee chairmen directing that the proposed order be discussed in private.

Practical contents of the proposed order were published in NPN March 24, p. 4, an industry spokesman said. It calls for elimination of special trips, callbacks and quick orders, would limit dump sizes to 60% of customer's storage capacity, etc.

One such meeting was held at the Chicago Oil Men's Club on April 13 by the subcommittee on retail deliveries in metropolitan Chicago (burning oil). Charles Rosenthal, Apex Motor Fuel, relinquished his appointment as chairman of that committee to accept chairmanship of a new 3-man subcommittee on local deliveries (all products) in Zone 1, Lake and Cook Counties, Illinois, according to spokesman who was present.

Members of the new subcommittee, in addition to Mr. Rosenthal, who represents independent jobbers, are: E. C. McPhee, operations manager, Socony-Vacuum, and A. D. Smith, Desplaines, Ill., Lake & Cook Farm Supply Co., representing major companies and farm bureaus on the subcommittee.

C. B. Jonswold, Chicago, Triangle Oil Co., was named chairman of the burning oil subcommittee to fill the vacancy left by Mr. Rosenthal's withdrawal.

D E A T H S

Judson C. Welliver

Judson C. Welliver, 72, director of public relations for Sun Oil Co. since 1931, died here April 14.

Previously in his career, Mr. Welliver served as public relations director for American Petroleum Institute, directed the Harding Presidential campaign of 1920, and acted as confidential secretary to Presidents Harding and Coolidge.

Mr. Welliver was born in Aledo, Ill., and after graduating from Cornell College in Iowa became a newspaperman with *The Sioux City Journal*. He later became political editor and writer of editorials for the **Washington Tribune** and the Frank A. Munsey newspapers. In 1907, President Theodore Roosevelt sent him to Europe to report on the railroads and waterways of Great Britain and on the Continent, and from 1917 to 1918 he was London Correspondent for the *New York Sun*. In 1927 he was named editor of the *Washington Herald* and in 1928 became assistant to the president of the Pullman Co.

° ° °

Henry Lockhart, Jr.

Henry Lockhart, Jr., 65, director of Shell Union Oil died at New York April 14. He had been a director of the company for 21 years.

NPN Reports

War Oil News and War Orders from

WASHINGTON

For ALL branches of the Oil Industry

WASHINGTON BUREAU, 1034-36-38 National Press Bldg. ● Telephone National 3477 ● A. M. PETTY, News Editor and Chief of Staff

Stations Give Up

Local Shortages of Gasoline in East Have Reportedly Closed Thousands of Stations. May Change Refinery Yields To Provide Relief by Making More 'Gas'

WASHINGTON—Localized gasoline shortages have closed hundreds, if not thousands, of service stations in the north Atlantic area, according to reports received by PAW. So severe is this station shortage that consideration is being given here to a temporary change in gasoline yields at east coast refineries to provide immediately 35,000 bbls. a day more gasoline.

In the area around New York Harbor, alone, it is reported that about 2000 stations are closed. Of these, 60% were closed because of lack of gasoline, it was said. One company is said to have about 1000 stations closed in this area, with "no gasoline" as reason for half of the closings.

Complicating the shortage was a serious shortage of kerosine and range oil in many areas, including New England where a lingering cold spell has increased demand. Farm demand for tractor fuel, closely akin to kerosine, has contributed to the shortages in the refining areas.

New England suppliers have been notified that they will no longer receive box car shipments of kerosine. Suggestion has been made to them that they switch these cars to No. 2 fuel oil.

Change Comes Over Night

The gasoline supply picture changed almost overnight. OPA Chief Brown has been pressing the petroleum administration for an increase in the gasoline allocation to District 1 so that "A" coupon values could be increased to a full 3 gal. instead of 1.5 gal. a week on the average as now.

OPA Chief Brown eased up on this request when told of the seriousness of the supply situation, which, it is hoped, will be only temporary. By the end of the week there was talk that OPA might find it necessary to suspend "A", "B", and "C" ration coupons for the weekend as it did last December.

However, at a conference between Mr. Brown and Mr. Davies at PAW on April 17, the Deputy Petroleum Administrator apparently talked OPA out of this idea. At any rate, there were no signs of a "freeze" in sight on April 20. If such a step is taken, it would probably be limited to the area north of the Potomac where the shortage situation is most serious.

No Extra 'Gas' in Sight for East Right Now---Ickes

WASHINGTON — East Coast motorists' hopes for more gasoline during May went out the window last week when PAW Ickes at his April 15 press conference told reporters that nothing would make him happier than to announce that more gasoline would be available—but it just couldn't be done.

OPA Chief Brown conferred earlier in the week with PAW Deputy Davies, contending that present "A" rations for eastern cars—which now amounts in effect to 1.5 gal. weekly—is too low to keep cars in operating condition.

When this was mentioned, Mr. Ickes looked at Deputy Davies and said: "Well, that looks like your question, let's see what you can do with it." Mr. Davies gracefully extracted himself suggesting that Mr. Brown be questioned instead. Mr. Ickes declined to discuss a letter he reportedly received from Price Administrator to the same effect.

Later in the day, PAW released its weekly supply bulletin which said gasoline supplies continued to be low at a number of east coast points "with little immediate relief anticipated for at least a month". Increased civilian consumption, PAW said, contributed to the decline in stocks.

Despite the new record tank car movement of 924,079 b/d to the East, bulletin said, oil stocks in the area dropped to a new low level of 28.8% of normal. Stocks were 30.5% of normal the previous week.

This lent increased emphasis to recent PAW-OPA conferences on the east coast gasoline situation. And, OPA is reported "stumped" in deciding where to make an equal cut if "A" rations are increased.

Deputy PAW Davies commenting on the increased gasoline consumption, pressed for an "absolute minimum" of driving and said it was the earnest hope of PAW that motorists will remember that "we are not out of the woods yet".

The supply bulletin gave these conversion figures: conversion of industrial and commercial fuel oil burning facilities reached an annual savings mark of 1,500,727 bbls.; total saving to date from the campaign, 111,000 b/d.

WPB Oil Salvage Chief Urges Unfreezing Pumps in Inventory

WASHINGTON — Calling attention to the freezing in oil company storage of 15,000 new computer-type gasoline pumps under Conservation Order M-68-c, when they could be used to replace old and worn-out pumps and the latter scrapped for salvage, R. T. Lawrence, chief, petroleum unit, industrial salvage branch, WPB, wrote R. W. MacMillan, chief, equipment section, PAW, quoting a major oil company:

"We cannot understand how anyone could have any moral objection to using the good materials which are frozen rather than removing the old junky materials now in use and causing so much difficulty and expense in maintenance, which materials should be scrapped and the good materials used rather than to leave the good materials to deteriorate at a loss to all concerned."

In pointing out that the majority of these pumps had been in their original crates "not less than 2.5 years", Mr. Lawrence recommends to PAW "an immediate modification or complete rescinding" of this order, explaining:

'Inflicts Hardship'

"It is inflicting a hardship on all . . . and is certainly styming the efforts of this department to get its full contribution of copper and brass from the petroleum industry. These are very critical items today.

"If the 15,000 pumps . . . were unfrozen . . . they would be placed in the field in substitution for old equipment that is antiquated and is causing considerable expense to maintain . . . These old pumps would be given to the war effort as scrap.

"The new gasoline computing pumps," he added, ". . . . are equipped with displacement type meters . . . constructed with leather pistons which . . . have a tendency to dry out and become hard and useless and have to be replaced. It is practically impossible to get leather pistons today."

Court Refuses to Enjoin OPA On 'Gas' Sale Suspension

WASHINGTON—Refusal of a U. S. District Court to enjoin an OPA order suspending sales of gasoline by a Washington, D. C., service station for a period of 30 days was cited April 16 by OPA's acting general counsel, Thomas Emerson, as "a significant decision which gives valuable aid to the Office of Price Administration in its drive to destroy black markets".

Washington Outlook . . .

Background News and Opinion

By A. M. PETTY, NPN News Editor

Combining the transportation, supply and marketing divisions of PAW under one head—probably Major J. R. Parten, now transportation director—is in the cards.

Merging the supply and marketing divisions has been talked for some time. Now, transportation is included in the discussions. Functions of all three overlap. Other considerations were involved, too.

The transportation division has been in an anomalous position since last December when Mr. Ickes had to abdicate all claim to oil transportation (except distribution) to get ODT's approval of PAW's executive order. Also, PAW would like to shed the term "marketing". To some, it means "merchandising and selling" which terms do not carry the same implication of essentiality as "distribution".

So, all three divisions may be combined into a Supply and Distribution Division, headed by an assistant deputy petroleum administrator. Logically, that would be Major Parten.

Robert L. Minckler, PAW's supply director, keeps pressing Deputy PAW Davies to release him so he can go home to California. Supply side of the new division would include transportation. But Major Parten would probably want a transportation-minded man to head it, not a supply man. If that reasoning is correct, then Lucien F. Craig, newly-appointed assistant supply director, would continue in that capacity. Walter Hochuli, who recently came on from Chicago to be marketing director, would head the distribution side.

* * *

Don't be surprised if Will Dodge of Texaco goes with PAW.

He laughed off the marketing director job offer. But PAW still wants to get him somehow, somewhere. It would please the East Coast crowd. But he's had enough of Washington.

However, there is something cooking, more to his taste. It is director-in-charge of District 1 at New York, with enlarged authority and answerable only to Ickes and Davies at Washington. Supply and distribution activities of L. T. Kittinger would be placed under Mr. Dodge. If he does accept, you can bet that Mr. Dodge is going to insist on a workable Directive 59. He will stand for no more winking at No. 59 by anyone, big or little.

* * *

E. L. DeGolyer has handed in his resignation as assistant deputy petroleum administrator but PAW Ickes hasn't gotten around to inserting an effective date yet.

There is talk that Mr. DeGolyer may team up with his old partner, Sumner T. Pike, and have a fling at wildcatting.

Mr. Pike isn't any too happy about his job as OPA oil price chief now. He was "loaned" to OPA for 6 months. That runs out about June 1, just around the time when his Securities & Exchange Commission appointment expires, too. But he may leave OPA before that. Mr. Pike was "inserted" into OPA by President Roosevelt, just before Leon Henderson was forced out. By straining a point, he could be regarded as a "Henderson holdover" although he is not a college professor or economist.

* * *

Publication by the Patman Committee of Mr. Pike's strongly-worded memo to Price Administrator Brown on PAW Ickes' crude price recommendation isn't going to improve the Ickes-Brown relations any. Already, on Mr. Ickes' side, at least, things are a bit strained due to PAW-OPA differences over gasoline supply and rationing. Now, Mr. Ickes has publicly referred to Mr. Brown as a "buck passer".

If Mr. Ickes demands the Pike head on a platter, he might get it. Mr. Brown, being an expert at smoothing things over, might be inclined to swing the axe—but he might find Mr. Pike's chair empty.

* * *

However jubilant the producers might be over Mr. Pike's leaving OPA, there will be sadness among some independent jobbers and dealers. Those marketers who have contacted Mr. Pike believe him sympathetic to increased jobber-retailer margins.

Another blow at marketers' hopes is the resignation of Robert H. Collacott, head of the marketing section in OPA's oil price division. Jobbers and dealers have gained the impression that Mr. Collacott strongly favors wider margins. Mr. Collacott is returning to Ohio Standard and his other business interests in Cleveland on May 1.

George Doffing, No. 2 man in OPA's fuel price division, has already left, returning to Minnesota where he hopes farming will cure his sinus trouble. He may or may not come back. Meanwhile, Orville Judd, Cleveland OPA official, has taken over. Mr. Judd, while recently in the automobile finance business, was once an independent refiner in Texas.

Other resignations from OPA's oil unit are in the wind due to business reasons, the draft, etc.

* * *

The time is Thursday afternoon, April 8; the place, Sumner Pike's office in OPA. An NPN representative is asking if Mr. Pike had seen or heard of a crude price recommendation from Mr. Ickes. No, Mr. Pike replied, but there must be something in the wind because newspapermen had been calling for 24 hours about such a thing. Just then the telephone rings. It's Administrator Brown's office. A special messenger is on the way down with a "very confidential" letter from Mr. Ickes. Will Mr. Pike please read the letter and let Mr. Brown have his comments immediately as Mr. Brown is going out of town? The NPNer prolongs the conversation as long as he dares. Still the messenger doesn't appear. Reluctantly, the NPNer leaves. Back again in 10 minutes, the NPNer finds Mr. Pike pacing the floor and dictating about wildcats and such (it might have been the now-famous Pike-Brown memo). Mr. Pike has in his hand a letter with a huge tag: CONFIDENTIAL. He waves it. Yes, that's "it". But no questions. Sorry. The NPNer looks at the clock. It seems a historic occasion of some sort. The time should be noted. It was 3:56 p.m.

* * *

Out on a Limb: PAW is going to have more to say about how OPA rations gasoline in the East Coast area. . . . Eastern seaboard diesel prices are due for a 10c hike to come from the East Coast "pool" (but the first that PAW will know about this is reading it here) . . . . Mr. Ickes has definitely pledged action soon on a Small Business unit in PAW. . . . OPA will allow a summer fill-up under fuel oil rationing plan, amounting to about 40% of year's basic ration. . . . An advance in tank wagon and retail gasoline prices in subnormal areas will come sooner than a general margin increase . . . . All of West Virginia will be back in the East Coast shortage area before long. . . .

New OPA Counsel to Simplify Price Agency's Orders

WASHINGTON — George J. Burke, Ann Arbor, Mich., lawyer, became general counsel of OPA on April 19 and announced his purpose would be to work toward "further and continuing simplification" of OPA orders and the extension to local boards of a "fuller degree of authority in keeping with their responsibilities."

He succeeds C. David Ginsburg.

U. S. Chamber Will Hear Davies

WASHINGTON—During the annual meeting of the U. S. Chamber of Commerce to be held at the Waldorf-Astoria Hotel, New York, April 27-29, Deputy PAW Davies will speak before a group meeting and panel discussion of representatives of the natural resources industries. This group meeting, the Chamber has announced, will be held on the afternoon of April 28, and will have for its main theme "Fuels and Power for War". Mr. Davies' subject will be "What About Oil and Gasoline?".

On Capitol Hill . . .

What Congress is Thinking and Doing on Oil Problems

By WILLIAM J. MADDOX, NPN Staff Writer

Ickes' Price Recommendation Spikes House Hearings

WASHINGTON—Well, we now know that PAW Ickes *did* recommend a crude price increase to OPA; that it was for around 35c a bbl. on the average; that it was made April 7; that he has had no reply to it; and that Fuels Chief Sumner Pike the same day fired a memo to his boss, Prentiss Brown, taking the recommendation apart point by point.

Two House committees—the Lea oil investigating committee and the Patman small business committee—had spent nearly a week hearing arguments on the need of higher prices to stimulate new discoveries.

Time and again the question of whether or not there was such a thing as an Ickes' recommendation bobbed up.

It remained for the Patman group in its final session on April 16 to hit the jack-pot and spread on its records not only the full text of the Ickes' recommendation but Mr. Pike's memo to his chief as well.

Present were the 3 headliners in person—Price Administrator Brown, OPA Fuel Price Chief Pike, and PAW Ickes.

Definite Statements Obtained

In addition to these 2 documents, the hearing developed significant statements from each bearing on a crude price increase.

Price Administrator Brown said:

"Under the President's order of April 6 or 7, commonly known as the hold-the-line order, which is an order that all of us concerned in the matter of and wage holding the line are strongly in favor of, I think greatly affects the situation. There is in my mind, no doubt but that under the Stabilization Act which is the basis for the President's order, the act of October 2, that the regulation of a price of a commodity, like oil, may be undertaken under section 1 or 2, section 2, I think it is, by which prices may go up, where necessary, for the effective prosecution of the war."

A little later Mr. Brown said:

"There is no doubt in my mind, Mr. Chairman, that if it were found, as a matter of fact, that the production of petroleum and its ultimate transportation and delivery to the war front would aid in the effective prosecution of the war, that we would have the legal duty to increase the price."

Ickes' Statement Quoted

PAW Ickes told the committee:

"I would like to say, as far as prices for crude oil are concerned, when we ran in the general period when it was seen that it would be necessary to establish ceilings, the price of crude oil was not then on a parity with the price of other products.

"It suffered on this handicap. The oil industry could never get a hearing, and when we asked that the oil industry be given a hearing on the question of prices, I was turned down. It is said now, this is a poor time to ask for an increase in oil prices.

"It has been a poor time for the past 2 years."

Pike Gives His Views

Fuel Price Chief Pike gave his position:

"My feeling is it (an increase in crude price) is not an open-and-shut matter. It is a matter that is open to all sort of argument, evidence and testimony. I do not think we can answer a thing like that flatly before the evidence is in and I have some of the evidence that the oil industry is going on. I have some other evidence that shows that price adjustments may be necessary in certain quarters."

At another point Mr. Pike said:

"My first view is that it (an increase in crude price) is a subject open to substantial argument and that the door has been opened: that I have never seen a time yet when the producers did not think there ought to be an increase in the price of oil. I think that is perfectly natural. I do not say that in any spirit of criticism."

The committee adjourned subject to the call of Mr. Patman. The Lea committee closed its doors April 15 for a series of executive sessions with Army and Navy chiefs. But it promised more open sessions later.

Patman Steals the Show

Clearly the Patman committee to date has stolen the show from the Lea group.

Following the revelations April 16, however, Rep. Boren of the Lea committee told NPN that his group would have a Brown-Pike-Ickes appearance when open hearings are resumed.

If so, it may touch a higher note than their appearance before the Patman committee. Congressional interest definitely has been focused on higher crude prices. Many members on both sides of the Capitol, who have been too busy with other legislation to give it much or more than off-and-on-attention, are beginning to talk oil. One evidence of this is the large number of members who had their "appearance" entered for the records of the 2 oil investigating committees.

More will be heard from them on the floor. And by the time the Lea committee opens its doors to Brown, Pike and Ickes, interest should be at the "cooking" point.

Answers One Point

Price Administrator Brown's opinion that the President's "hold the line" order does not preclude a hike in crude prices will answer the worries of some members of the Lea committee. Chairman Lea himself and Rep. Wolverton, N. J., have been particularly concerned over this point.

At the committee's session April 15, Mr. Wolverton commented that if the order meant what it seemed to then, "all our discussion here is out the window."

Mr. Wolverton told a witness frankly that the committee was trying to find some way to get around the order. And with this feeling several members started delving into the possibilities of stimulating new oil discoveries by government subsidies, incentive payments, and even revision of the tax law.

Industry witnesses to a man, however, have turned thumbs down on talk of subsidy. They said subsidies were "strange doctrine" to oil producers—that the business was not organized along those lines.

Sumner Pike, asked by Mr. Patman if he would favor a price increase "above anything else that has been suggested" as a means of stimulating discovery, said:

"Anything that I know of. I do not believe I have considered anything else as a serious practical proposal."

A suggestion of subsidy was turned down by Col. Ernest O. Thompson, Texas Railroad Commission, when he appeared before the Lea committee. He asked if it might not lead to government ownership of the oil industry.

Rep. Brown, Ohio, remarked "Well, the government is going to own everything anyway."

Col. Thompson suggested that the crude price be raised to parity with other products. Taking 1926 as a basic level, he said it would require an increase of 58c a bbl. to bring oil up to that parity—cost to be passed on to the consumer.

Russell Brown, general counsel, I.P.A.A., presenting the case of the independent producer, told the Lea committee that a 50c raise

Arriving late, Deputy PAW Davies got a fill-in on what had happened before testifying at the Patman crude oil price hearing. Bringing the deputy administrator up to date are Adolph Levy, PAW attorney (bending down), and J. Howard Marshall, PAW chief counsel

in crude would probably result in an increase to the consumer of 1.2c a gal. in overall product price, with the bulk of the increase probably borne by gasoline or fuel oil.

How much of the increase would have to be passed on to the consumer, he said, depended on the amount of "slack" existing in refining.

He deplored suggestions of a government subsidy instead of a price boost, and thought the consumer in the long run would have to pay more via the subsidy route. The oil industry, he said, is afraid of bonuses and subsidies. He favored a flat increase in price.

Brown Criticizes Ickes

Mr. Brown was critical of Mr. Ickes' efforts in behalf of the oil industry. Since the President's grant of additional powers to the Petroleum Administrator, Mr. Brown declared, "the strength of the petroleum producing industry has not only failed to increase but has grown continuously weaker". Said Mr. Brown:

"1—In addition to the threat to its tax base, the industry has been confronted with complete demoralization of its distribution system.

"2—Capacity to produce crude petroleum and make it available for consumption has been reduced more than 200,000 b/d.

"3—In order to meet demand we have drawn from our above ground storage nearly 60,000,000 bbls. of petroleum.

"4—Discovery rate has reached the lowest point in the modern history of petroleum.

"5—Our manpower has been dissipated to industries who have not been so restricted.

"6—Our ability to obtain essential materials with which to operate the industry has been reduced so much as to render impotent many in this important industry in face of our country's greatest need."

★ ★ ★

Text of Ickes' Recommendation to OPA's Brown

PETROLEUM ADMINISTRATION FOR WAR
Washington, April 7, 1943.

HON. PRENTISS M. BROWN,

Administrator, Office of Price Administration.

MY DEAR MR. BROWN: By section 3 of Executive Order 9276 the President placed upon the Petroleum Administrator the duty of recommending to the Price Administrator such adjustments "in the schedule of prices charged for petroleum as will, in the judgment of the Petroleum Administrator assure the efficient wartime operation of the petroleum industry and the maintenance of adequate supplies of petroleum for war, and essential industrial and civilian uses." After months of study, I have reached the conclusion that I must now recommend that a general upward adjustment of crude oil price ceilings averaging approximately 35 cents per barrel, with necessary equivalent and concurrent adjustments in petroleum product prices, is required to attain those objectives relating to the supply of petroleum and the efficient wartime operation of the petroleum industry, concerning which the President has asked that I express my judgment.

Exploration for and production of crude oil involve enormous risks. Evaluations of these risks cannot be reduced to exact mathematical formulas. They are peculiarly a subject for informed judgment. But the absence of an exact mathematical relationship between crude oil supply and crude oil prices must not be allowed to hide the fact that the rate of new discoveries and the ultimate available production from presently known reserves are in no small degree a function of price. Our studies convince us that in a matter of months, unless new fields are found more rapidly, secondary recovery stimulated and somewhat higher cost production prolonged, we face first a loss of recoverable reserves arising from a wasteful forcing of such flush fields as we still possess, and shortly thereafter an actual scarcity of sufficient amounts of even reasonably low-cost crude oils.

I recognize fully the dangers of price inflation. But price inflation connotes an unwarranted rise in prices without promise of increasing supply. My fear is that unless we are prepared now to permit some increases in oil prices in order to stimulate increases in our available supplies, our reserves will continue to be depleted at such a pace that only a drastic increase in prices—perhaps several dollars a barrel, as contrasted with a tenth of that amount if we act now—will be required to find and produce the oil we are certain to need both during the war and after. An inflationary price spiral, once started, is difficult to arrest. A deflationary effect upon our ultimately recoverable reserves, and our daily capacity to produce, can likewise spiral and be difficult to arrest. Once we are compelled to produce our oil fields in excess of their efficient rates, we lose both ultimately recoverable production and daily capacity to produce.

I do not know what you will consider to be the effect upon other prices of a rise in crude oil prices which, when translated into products, will amount to less than 1 cent per gallon. That is a matter which has been entrusted to your judgment rather than mine. So far as the consumers of petroleum products are concerned, I am sure that they prefer moderate prices and adequate supplies for the long pull rather than to be compelled to pay for artificially low prices now with ridiculously high prices and scarcity a very little later. Measured in terms of our oil supply—the task entrusted to me—I am not prepared to assume the responsibility of risking a repetition of what occurred at the close of the last war, when after crude-oil prices had been rigidly frozen and our reserves depleted, crude-oil prices rose to $3.50 and even $4.30 per barrel and untaxed gasoline to 25 or 30 cents per gallon. Moreover, had that war lasted but a little longer, the oil shortage might then have made it difficult to supply the armed forces with enough oil. The possibility of such difficulty in this war, if it be long protracted, is a risk that should be carefully considered.

I shall not burden you in this letter with the details of the careful surveys which I have had made showing the extent and the decline in our known crude-oil reserves during the past few years. Suffice it to say that we believe our reserves to be larger, when measured in barrels, than the petroleum industry has frequently estimated, but much smaller, when measured in years' supply, than the American people have recognized. The industry has followed the practice of making estimates on what it termed a conservative basis. The flaw in this type of estimating lies in its tendency, since 1938, to screen a decline in newly discovered oil. For by the simple expedient of enough yearly "corrections" for past "conservatism" some industry statisticians have made it appear that reserves have kept pace with consumption. But "corrected" figures do not represent new discoveries. This Office has found that if the subsequently "corrected" reserves of each field discovered since 1928 are actually allotted to the year in which that field was found, we have not found enough new oil during the last 4 years to replace withdrawals necessitated by constantly accelerating demand. As one independent oil expert has aptly described it, we need to find more oil with the drill and less with a pencil.

Actually, it is relatively unimportant whether presently known reserves total 20,000,000,000 barrels as the industry recently has estimated, or somewhat more, as our surveys show. Neither amount can be produced in toto in less than half a century. Neither amount is capable of sustaining withdrawals at the rate of 1,400,000,000 barrels annually much beyond the present year. What is worse, if it becomes necessary to produce existing fields in excess of efficient engineering rates, ultimately recoverable reserves will have to be "corrected" downward as they have been "corrected" upward.

You may ask how much of a price increase is required to rectify these conditions. I do not know exactly and I am quite certain no one else knows. If anyone knew with mathematical exactitude, finding and producing oil would not involve such enormous risks. But this I do know—an increase in price makes it economically possible to increase recoverable reserves (1) by postponing the date of abandonment of thousands of pumping wells, (2) by the installation of more and better secondary recovery equipment, (3) by drilling edge properties and so-called marginal locations, and (4) by attracting venture capital from both within and without the petroleum industry to undertake the greatest risk of all, exploring new fields. Of course, material, labor, and other costs have risen in the producing branch of the oil industry. With the introduction of overtime, necessitated by the 48-hour week, labor costs will rise still further. Such factors as these can be more or less exactly measured. But none of these items of added cost, however much they can and do justify some increase in crude-oil prices, is as important as the hard, cold facts of declining rates of discovery and increasing demands.

My present recommendations of an increase in the price ceilings for crude oil may be too little, but strictly from an oil standpoint, I am confident that it is not too much. Fortunately, the Government can test it pragmatically, just as the industry always has in times past. If in the months to come the action now recommended reverses the decline in reserves or the rate of new discoveries, we shall know that it is effective. If not, the subject should be reexamined. To the extent that some may derive a small windfall from such an increase, I prefer to leave that to be largely recaptured by existing taxation rather than have the Government itself enter this most speculative of businesses, or by indirection, reach the same result by undertaking the colossal task of administering some subsidy arrangement. The true costs of finding and producting oil, including the risk as well as the chance for profit, ought to be borne by the users of the product in proportion to their use and not become a governmental charge against user and nonuser alike.

In the specific application of general upward adjustments in crude-oil price ceilings, I recommend that due allowance be made for radical changes in the sources and methods of transporting crude oil which have occurred since prices were frozen almost 2 years ago. For example, Gulf coast crudes formerly hauled to east coast markets by tanker enjoyed a transportation advantage as against many interior crudes. Now, with crude and products moving overland rather than by sea, this condi-

tion is reversed. Accordingly, in order the better to solve the problems of local shortages arising from the disruption of normal methods of transportation, it would seem desirable for some crudes in some areas to be advanced more than 35 cents per barrel, and in other cases less. Here actual differentials based on reasonable exact formulas can be worked out between our respective offices with the aid and assistance of industry.

As to what I have called necessary equivalent and concurrent adjustments in product prices, unless these be made, the small, non-integrated, independent refiners will be squeezed between the two millstones of rising raw-material costs and fixed refined-products prices. This not only tends toward monopoly but also may result in a loss of refining capacity which cannot be spared. All that I urge at this time is that in translating higher crude prices into higher product prices, a very substantial part of the necessary increases should be placed upon fuel oils. Only thus can we preserve and protect our essential reserves of crude oil by deterring their dissipation in admittedly inferior uses. Our known supplies of coal are measured by thousands of years —our known supplies of crude oil by little more than a decade. Coal readily can be used where oil too frequently is burned. Quite recently coal prices have been advanced. Comparative price levels as between these two commodities must not be frozen in such a manner as to make it profitable to burn the scarce rather than the plentiful fuel.

I am sure you realize the magnitude and the complexity of revising price ceilings to effectuate these general recommendations in a specific and practicable way. It is hardly a task that either of our hard-pressed staffs should be asked to undertake unless it is known in advance that your Office, in which the power to make the adjustments resides, agrees that some general crude-oil advance is justified by the basic facts here submitted. It may be that you will desire to consult with the Director of the Office of Economic Stabilization on this point. My views, of course, represent my judgment on the oil situation only. Having weighed these views, you or the Director of Economic Stabilization may deem the risk of an oil shortage less grave than the risk of other possible effects upon the Nation's economic structure. If so, under your statutory powers, that is clearly a decision that you, not I, should make.

I am sure that I need not add that all of the documentary detail on this whole subject, both that submitted to this office by the industry and our own independent surveys, is available to you and your staff.

This recommendation is sent to you under personal cover and by messenger further to assure against any publicity or disclosure prior to such time as you yourself may desire to make known its content. I have been at pains to see that those on our staff here who have worked on the problem respect the confidential nature of the assignment, and I have every confidence that they will do so.

I shall appreciate an early expression of your views.

Sincerely yours,

/s/ HAROLD L. ICKES.

Petroleum Administrator for War.

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Text of Pike's Memo on Ickes' Recommendation

APRIL 7, 1943.

To: Mr. Prentiss Brown.

From: Sumner T. Pike, Director Fuel Division.

Subject: Proposed increase in crude oil prices.

Secretary Ickes' letter of April 7 recommends a general increase in crude-oil prices in the neighborhood of 35 cents per barrel with corresponding increases in product prices but omits specific recommendations for particular crude oils and products. The point on which your judgment seems to be most directly and immediately called for in the paragraph starting at the bottom of page 3 as follows:

"I am sure you realize the magnitude and the complexity of revising price ceilings to effectuate these general recommendations in a specific and practicable way. It is hardly a task that either of our hard-pressed staffs should be asked to undertake unless it is known in advance that your office, in which the power to make the adjustments resides, agrees that some general crude oil advance is justified by the basic facts here submitted. It may be that you will desire to consult with the Director of the Office of Economic Stabilization on this point. My views, of course, represent my judgment on the oil situation only. Having weighed these views, you or the Director of Economic Stabilization may deem the risk of an oil shortage less grave than the risk of other possible effects upon the Nation's economic structure. If so, under your statutory powers, that is clearly a decision that you, not I, should make."

My personal view is that it is most unfortunate to have a recommendation of this sort when we are involved in a critical struggle as to coal wages, and another one even more important concerning the price of farm products. I have tried to get the Petroleum Administrator for War to delay any recommendation on oil prices until these other two matters were settled but apparently with no success. From your continuing contact with Justice Byrnes' office I think you will agree with me that the Office of Economic Stabilization will not react favorably upon this recommendation of the Petroleum Administrator.

As to the merits of the recommendation itself, there is, of course, room for wide differences in points of view. As the Administrator says, exploration for and production of crude oil does involve enormous risks which cannot be reduced to exact formula. It is also true that it is becoming more and more difficult to replace by new discoveries the nearly one and a half billion barrels of oil which we consume annually. It is again true that costs of labor and other essential elements have increased substantially since present prices for crude oil were fixed.

I do not believe, however, that the policy of this office under the two price acts and the President's Executive order calls for a general increase in the price of crude oil at the present time. We have recently made some adjustments in particular prices to stimulate the production of heavy crude oils particularly suitable for fuel in the two areas of Wyoming and California. These actions have put the crude structure reasonably well in balance, with the exception of an area in Texas south of Corpus Christi, where it may be that some adjustment in the next several months will prove to be both desirable and necessary.

The Administrator's letter, couched as it is in general terms, is difficult to answer specifically, but in the last paragraph of page 2 we have this sentence—

"° ° ° But this I do know—an increase in price makes it economically possible to increase recoverable reserves (1) by postponing the date of abandonment of thousands of pumping wells, (2) by the installation of more and better secondary recovery equipment, (3) by drilling edge properties and so-called marginal locations, and (4) by attracting 'venture' capital from both within and without the petroleum industry to undertake that greatest risk of all, exploring for new fields."

Briefly taking up each point:

(1) Postponing the date of abandonment of thousands of pumping wells: Almost all oil wells go through the stage of gradual decline and finally become unprofitable to operate at any given price of crude. Some reserves can be saved by postponing that date of abandonment. However, all small wells are not necessarily unprofitable. We have several times stated that when specific distress situations of this sort were presented to us we would look at each problem with earnest and sympathetic attention and if the objective to be obtained were sufficiently worthy, would make specific price increases to handle the problem. This method of specific differential pricing was highly recommended to us by Justice Byrnes' office in the California situation but we felt in that case that the problem was general enough among the heavy oil producing wells not to warrant the administrative difficulties which would be involved. I believe the case here is different. I cannot recommend raising the price of all oil in the country to afford relief to less than 10 percent of the production.

(2) The installation of more and better secondary recovery equipment. Oil produced by secondary recovery methods is probably substantially less than 5 percent of total production. Of this amount, well over half is produced in the Pennsylvania area where, due to the high lubricating quality of crude, prices around $3 are being paid, which means a good profit to the producers. In oil of ordinary quality, secondary recovery is only justified in very unusual and special situations where costs are extremely low. To increase prices in general so that secondary recovery methods can be much more widely used will again mean a tremendous increase in the country's oil bill for a very narrow objective. My belief is that if we are to encourage such projects, they should again be taken individually and each one studied on its merits.

(3) Drilling edge properties and so-called marginal locations: The same comments apply here that apply to No. 1 above.

(4) Attracting "venture" capital from both within and without the petroleum industry to undertake that greatest risk of all, exploring for new fields: There is surely some merit in this proposal. At higher prices old wildcatters will become more active and new ones with new capital will be attracted. It may eventually be necessary to raise prices in order to stimulate exploration. I believe, however, that that time is not yet here. Last year we had almost as many wildcat wells drilled as our all-time peak. We found about as many new fields as in any previous year. During the last year and at the present time exploration crews and equipment have been used to the full with an intensity which promises to be limited only by shortage of manpower and available equipment. It is true that the number of barrels discovered in new fields last year looks to be disappointing. However, that is almost always true of the most recent year. A large field is almost never thoroughly explored so that its full size is known until several years, sometimes 5 or 6 years, after it is discovered. Somebody has evidently taken the Secretary for a statistical ride in presenting the figures. It must be true in the nature of things that the most recent year almost always looks like the poorest year because no one knows the magnitude of what was found so recently. This is particularly true in 1942 since during that year steel and drilling equipment was made freely available for discovery purposes and, as noted above, very many new fields were discovered; yet when it came to developing those same fields, the producer immediately ran up against the restrictions on equipment which were caused by the shortage of steel so that in general we know much less about the full size of last year's discoveries than in a normal year.

One more remark: The Secretary states that the reserve situation is serious. I think that it is serious, too. We differ, however, on the question of how serious it is. Discoveries are continuing this year at a fair rate but the main point is that there are two areas in Texas where by additional transportation alone we could add some 350,000 barrels to 450,000 barrels per day to our effective production without overstepping the bounds of conservatism.

I am writing these remarks quite hastily as I understand you want to have my general views before you leave tomorrow. Naturally, the Administrator's letter and its implications deserve the gravest and the deepest study and the results of such a study could not be forthcoming for a considerable period. The above sketchily represents my immediate reactions on the subject.

WAR ORDERS *for the* OIL INDUSTRY

Every care is taken each week to list every order, rule and regulation issued by any war agency and applicable to all branches of the oil industry. Since these orders are so numerous, however, we will appreciate our readers' cooperation in letting us know when they feel that we have omitted a regulation.

Complete copies of the official text of every order on oil can be obtained from PLATT'S OIL-Law-GRAM, 1213 W. Third St., Cleveland, Ohio, a publication which reproduces and mails out the orders on oil immediately upon issuance. Minimum charge for single copies, $1, postage paid. One year's service, $75.

Code: AO—Administrative order; RO—Ration order, L—Limitation order; M—Conservation order; P—Preference rating order; PS—Price schedule; RPS—Revised price schedule; MPR—Maximum price regulation; GMPR—General maximum price regulation; Supp.—Supplementary; Reg.—Regulation; GO—General order.

The Week's Orders

(Issued from April 10-17 inclusive)

PAW—Petroleum Administration for War
PAO 11—Secondary recovery, SO 6

PR—Prices
43—Steel drums, Am. 3
88—Industrial lube oils, Am. 92
California crude, Am. 93
131—Camelback, Am. 2
165—Services, Am. 18
236—Conversion grates, Am. 2

RO—Ration Orders
1A—Tires, Am. 24
5C—Gasoline, Am. 4 to Supp. 1, Am. 40, 41
11—Fuel oil, Am. 60

OPA—Office of Price Administration
PrR 9—Ration appeals, Am. 7
SO 42—Secret government contracts

WMC—War Manpower Commission
R 4—Transfer of workers
Loc. Bd. Memo. 123—Class III-B
Essential Activities List

M Orders
M-15-b—Scrap rubber, Am. 5
M-133—Rotenone

WPB—War Production Board
Identification Symbols, Class B Products

Digest of Week's War Oil Orders

PAW—Petroleum Administration for War

SECONDARY RECOVERY—PAO 11, SO 6—Material may be acquired for secondary recovery operations by artificial water, air or gas drive if operations were being conducted on the property on March 30, 1943; issued and effective 4/10; expires 6/30.

OPA—Office of Price Administration

CAMELBACK—MPR 131, Am. 2—Camelback may be bought and sold at prices above ceiling in effect at the time in order to reflect crude price increase occurring after March 31, 1943; however, prices may not exceed the maximum in effect at time of delivery; issued and effective 4/13.

CONVERSION GRATES—Rev. MPR 236, Am. 2—Ceilings set for rectangular conversion grates used in converting from oil to coal; prices range from $54.95 to $107.95; installers also permitted to include in maximum price the actual cost of brick and masonry materials plus requisite labor; issued 4/17, effective 4/23.

CRUDE OIL—RPS 88, Am. 93—Price increase for California crudes from certain fields extended to include all California fields (see table top 3rd column for specific prices); Wheeler Ridge maxima set at 95c per bbl.; Olinda and Brea Canon 14-14.9° gravity crude set at 95c instead of former incorrect price of 97c; issued and effective 4/12.

FUEL OIL RATIONING—RO 11, Am. 60—Extra rations to be granted homeowners for oil-burning cooking stoves used for canning and preserving; applications for more than 10 gal. should include estimate of number of hours stove will be used plus number of gallons needed; issued 4/13, effective 4/19.

GASOLINE RATIONING—RO 5C, Am. 40, Am. 4 to Supp. 1—Bluefield, Va. and Sharon, Sharpsville and Wheatland, Pa. removed from gasoline shortage area and A, B and C coupons therein raised to 4 gal. after April 19; dealers and distributors must turn in to ration boards and bank accounts by May 4 all coupons received through April 19; issued 4/13, effective 4/19.

Am. 41—Motorists who can give good reason for having failed to get tire inspections on required date will be granted renewal of gasoline rations as long as they have inspection made within 60 days prior to application for renewal; special rations granted for transportation of patients from hospital or sanitorium; restrictions on non-occupational boating extended to 20 Idaho counties where fuel oil is now rationed; issued 4/16, effective 4/22.

GOVERNMENT CONTRACTS—SO 42—No price control to be exerted over sales made to government agencies under secret contracts or subcontracts; issued 4/16, effective 4/22.

LUBE OILS, INDUSTRIAL—RPS 88, Am. 92—Industrial lube oils and greases not offered for sale during March 1942 may be priced either under the provisions of RPS 88 or may retain the price set up by methods of GMPR before Feb. 25, 1943 in order to avoid recalculation and filing; base period for establishing prices of these products in Puerto Rico and Virgin Islands has been corrected to read Apr. 10-May 10, 1942 instead of month of March 1942; issued 4/14, effective 4/20.

RATION APPEALS—PrR 9, Am. 7—Lexington, Ky., and Dayton, Ohio, added to list of OPA offices permitted to hear ration appeals; issued 4/15, effective 4/21.

SERVICES—MPR 165, Am. 18—Services regulation is applicable in Hawaii as well as U. S., but base period in the Territory is April 1942 instead of March 1942; issued and effective 4/9.*
* Not released on date of issuance.

STEEL DRUMS—RPS 43, Am. 3—Ceilings set on used steel drums apply to any sale by the emptier, whether to a filler or reconditioner; sales by reconditioners are governed by GMPR; issued 4/16, effective 4/22.

TIRE RATIONING—RO 1A, Am. 24—Farm veterinaries made eligible for new tires, even if tire carcasses are recappable; issued 4/13, effective 4/19.

WMC—War Manpower Commission

CLASS III-B—Local Board Memo. 123—Class III-B eliminated and men with pre-Pearl Harbor children placed in III-A and temporarily frozen; new class III-D set up for men whose induction would result in EXTREME hardship to wife, child or parent; issued 4/12.

ESSENTIAL ACTIVITIES—List of Essential Activities, April 17, 1943—35 groups of industries listed as essential, including production of petroleum, natural gas and petroleum coal products (and petroleum refining); production of chemical and allied products and essential derivaties (lubricating oils and grease, synthetic rubber, insecticides and related chemical compounds); transportation services; repair services.

TRANSFER OF WORKERS—R 4—Shifts from one essential activity to another permitted only when no wage increase is involved, unless change is subject to WMC stabilization program; transfers from non-essential to essential activities encouraged, but change from essential to non-essential is not permitted if wages are increased; releases may be obtained if employe is discharged by last employer, is laid off indefinitely or for 7 days or more, or can prove that he is not working at his highest skill or full time; issued 4/16, effective 4/18.

WPB—War Production Board

PRODUCT SYMBOLS—Official Program Identification Symbols for WPB Industry Division Class "B" Products;—New set of Class B symbols assigned; issued 4/14, effective 7/1.

ROTENONE—M-133 as amended April 17—Rotenone insecticides packaged in quantities of 1 lb. or 1 pt. or less exempt from delivery restrictions; WPB authorized to issue directions at any time to processors concerning package sizes for the insecticides; issued 4/17.

SCRAP RUBBER—SO M-15-b as amended Dec. 28, Am. 5—Destruction of scrap on authorization of WPB permitted when scrap (including tires, casings and tubes) is valueless to rubber conservation program; issued and effective 4/13.

OPA's Price Ceiling Changes

All California crude fields except those named in Am. 87 to RPS 88:

A.P.I. Gravity	Increase per Bbl.
Below 15	$0.25
15-15.9	0.25
16-16.9	0.22
17-17.9	0.19
18-18.9	0.16
19-19.9	0.13
20-20.9	0.10
21-21.9	0.07
22-22.9	0.04
23-23.9	0.01

Provided, however, that the maximum price for a particular gravity crude shall not be less than that for a lower gravity crude from the same seller's receiving tank in the same pool.

	Price per Bbl.
Wheeler Ridge crudes	95c
Olinda, Brea Canon—14-14.9°	95c

Prohibit Sale of Anti-Freeze Containing Ethylene Glycol

NPN News Bureau

WASHINGTON—WPB April 19 prohibited purchase for civilian passenger cars of anti-freeze containing ethylene glycol with issuance of Limitation Order L-51 as amended, effective April 1, 1943, to March 31, 1944.

The purpose, WPB said, is to restrict this "permanent type" anti-freeze to commercial vehicles and stationary engines, since WPB found that during the past season ethylene glycol anti-freeze had not been distributed consistently for essential wartime uses to which it is best adapted. The order defines passenger automobile as any passenger-type vehicle including station wagon or taxicab, propelled by an internal-combustion engine and having seating capacity of less than 11 persons.

Automotive supply dealers, stocking up during coming weeks on anti-freeze solutions, were warned by ODT on April 19 to buy only approved alcohol or ethylene glycol solutions. ODT officials said that they had been assured by WPB's chemical division that there will be sufficient stocks of acceptable anti-freezes available for civilian use. Apparently, WPB's memo was received by ODT prior to the "freeze" on ethylene glycol.

OPA Says Large Fuel Oil Users May Use Ration Banking

NPN News Bureau

WASHINGTON — OPA has decided, in drawing up plans for next winter's rationing, to let large fuel oil consumers—those using 20,000 gal. or more annually—use ration banking instead of delivery receipts, it was learned April 19.

Draft A of OPA's plan for next winter said coupons would be valid for entire heating season, beginning with period for which coupon first becomes valid, but that this coupon will be good only for the immediately succeeding period, an official said. Thus, Period 1 coupons will be valid in Period 2, and Period 2 coupons will be good in Period 3.

A large consumer will receive certificate from ration board showing how much oil he is entitled to, the consumer will deposit the certificate in his bank, and draw checks against it for his supplier.

The EDITOR'S Page

Readers comments and opinions will be much appreciated by—WARREN C. PLATT, NPN's Editor and Publisher, Penton Building, Cleveland, O.

McNutt's Job-Freeze Opens Wide the Door To Pirating of Oil Marketing Employes

IF SOMEONE doesn't come to their rescue right now it's a fair bet that the independent competitors of major companies in oil marketing will be eliminated. The last employe-freezing order of WMC McNutt, effective Monday, may be the final straw.

That order distinctly fails to list oil marketing as an essential business; so that order says, in effect, that oil marketing employes can be approached at will by the 35 essential industries as well as by the draft boards and all individual employes taken out of oil marketing.

It's true that an oil marketing employer may be able to talk a local draft board or a local WMC office into making an exception for some of his truck drivers—maybe for a few other employes. But the record is that in this, the most recent decision of the Administration, oil marketing still is not classed as an essential war industry.

Yet oil marketing is distributing petroleum products to factories, big and little, making war munitions and essential civilian materials. It is distributing petroleum products to the farmer, who is struggling with the country's first and truly serious food shortage. The petroleum marketers are trying to keep supplied the cars and trucks needed both by essential industries and the employes of essential industries, and even the employes of unessential industries, to get to their work and to keep alive.

In this last employe-wage-freezing order, WMC McNutt lists "repair services" for everything from bicycles to clocks, pneumatic tubes, scales, and plumbing equipment, as being essential enterprises, and hence employes in these businesses cannot be approached by anyone, unless their employer releases them.

This "repair services" classification unquestionably protects the employes of garages and automobile and truck agencies where they are rendering mechanical service. And, as generally those active in this mechanical service on trucks and cars also man the gasoline pumps and sell lubricating oil, this can fairly be construed, then, to mean that automobile and truck agencies will be protected as to employes in their sales of gasoline and oil.

Another definition specifically protects all employes in petroleum and natural gas rig building, well drilling, etc., and refining, so those divisions of the industry are well sheltered.

This last freeze order follows a series of strangling orders and circumstances, starting with decline in gasoline gallonage due to conservation of tires, the ration orders on gasoline and lubricating oil, the inroads of the draft on marketing employes, the hiring away of many of those employes by other war industries, and the failure so far of government agencies to allow marketing a reasonable operating margin in their prices.

Various marketing committees of PAW and various oil marketing associations have declared recently that the necessary servicing of trucks and cars and supplying of products to the farmer are being seriously threatened because of the Administration's refusal to recognize oil marketing as essential.

Too many people at Washington are still looking at the alleged excess number of service stations and are refusing to see the services that those service stations must render in order to keep our biggest transportation system operating.

As most of the service stations are independently operated, if not independently owned, and as nearly half of the gasoline is distributed by independent jobbers, and as most of the fuel oil is also so distributed and a large part of the farm trade supplied by independents, the increasing stringency of this order and these circumstances most certainly means an increasing number of fatalities, if not even the elimination of these competitors of the major oil companies.

If these fatalities are not stopped at once, then the major oil companies will find themselves in the most uncomfortable and vulnerable position of doing all the oil business of the country. And PAW Ickes will be substantially chaperoning what many critics undoubtedly will call an oil monopoly. In which the government will have a heavy investment because of these new pipelines, refineries, barges, and tankers.

With the many thousands of small marketers out of the picture, their voices stilled forever, it will be but an easy step to federal socialism of the oil industry.

It would seem to be possible for the oil marketing committees of PAW and PIWC, backed by their respective superiors to the utmost, to make a real case before the rest of the administration at Washington on behalf of the efficiency and essentiality of oil marketing and its employes. The facts and figures are easily available. They simply have to be marshalled by aggressive men who believe in competition in oil marketing and who can clearly see oil marketing's value to the industry and to the country and to the war effort.

This is no fanciful fairy tale because the above conclusion is inescapable if one looks squarely at the narrowing margins and decreased gallonage, and this throwing the doors open wide of access to all employes of oil marketing for their transfer into the armed services and into other so-called essential war industries.

Oil Asks Only Fair Play From 'Trust' Busters

THE new head of the Anti-Trust Division of the Department of Justice, Tom C. Clark, late of Texas, in some remarks to the PIWC at its last meeting undertook to assure the oil industry that it would not be unjustly and unfairly attacked under his administration. He urged everyone to come in and see him at any time. He also told the oil men "to play their cards face up".

The trouble between oil and other industries and the Department of Justice has not been because the industries played their cards face up, but because the Anti-Trust Division of the Department of Justice has played its cards not only face down, but has dealt from the bottom of the deck and even from a stacked deck. There has been little that is fair and straightforward about the Department's attitude and relations with industry these past eight years.

Mr. Clark, we understand, is well and favorably known, not just by oil men but by a large number of people in Texas and elsewhere. He is respected, and his word is accepted as good, we are told.

The war effort of the country will unquestionably be greatly aided as long as men of Mr. Clark's reputation are in charge of the Department of Justice's relations with industry, and as long as those men are permitted to exercise their own good judgment on facts of their own ascertaining. It is to be hoped that Mr. Clark will be strong enough to withstand any unfair instructions or pressure from higher-ups in the administration as regards his future attitude toward oil and all businesses.

Too many of his predecessors, if they had the principle, certainly did not have the honest courage to stand up for honest and straightforward dealing regarding business. A display of such honest courage might cost an incumbent his job, but he certainly would receive the approval of the people and the support of Congress, judging from its present temper.

Neither oil, nor any other industry, asks anything but a square, fair, legal deal from the Department of Justice. But this it has not been getting these last eight years.

Oil Marketers Need Equipment Reserves Safeguard To Avoid Death in Postwar Competition

THE need for every oil man and every other type of businessman to plan for the keenest of competition after the war becomes increasingly apparent each day. Under the impetus of the war and of the billions of dollars being poured into manufacturing, new ideas and new materials are developing at a rate that could even be called alarming to the oil man who may not be keeping abreast of them. The average oil man—and other businessman—who dares not provide himself with the money not only to rehabilitate but practically to revolutionize his business after the war ends might be a fatality in the competition which the new ideas and materials developed under war's stress will help to create.

The great demand on oil refining for the components of synthetic rubber, explosives, aviation gasoline, etc., is providing that branch of the oil industry with the money and the opportunity of developing its own efficiency in ideas and methods and equipment against this revolution which will be most apparent at the end of the war. Oil production will also develop its own efficiency as soon as the government permits prices to rise so that drilling can be resumed on the required scale.

But unless some special method is provided so that those in oil marketing will have the money on hand at the end of the war, the small oil marketer particularly is going to find himself greatly handicapped if not even put out of business. The larger oil companies, with their skilled financial management, will almost certainly have plenty of cash and credit reserves from which to make any necessary rehabilitation of their marketing facilities. But the small man, who generally is not able to follow such a policy of financial management, will most likely be without the money unless some special arrangements are made now.

Oil marketing has been greatly restricted by war demands. The manufacture of new marketing equipment has been practically discontinued. Even such new equipment as still exists cannot be installed for the most part.

However, the minute the war is finished, new manufacturing methods, ideas, and particularly new materials now being developed will be turned loose on the problem of oil marketing, so that a flood of entirely new types of equipment can very probably be expected within a year or so; at any rate, after the conversion back to peacetime begins.

Therefore the recommendations being made by various groups at Washington, including those Congressional groups interested in the small businessman, that Congress enact a law exempting any money which a businessman lays aside for postwar rehabilitation and development from income tax, directly pertains to the continued life of the small oil man and to competition in the oil business.

The extent in dollars and cents to which such a law could help the smaller oil man can be easily figured. A business with most any kind of profit these days, especially before the war ends, will pay from 20%, 40%, or 50% of its net profit in income tax, and many businesses will pay upwards of 70% and 80%. In terms of the small oil man this means 20% or 30% or 50% of profits of $10,000 or $25,000 or perhaps $50,000 to $100,000 or more. That percentage means that such tax rates leave relatively little for additions to necessary working capital for future rehabilitation and expansion. As that rehabilitation and expansion will run into sizable figures in the two years following the close of the war—that is, $25,000 or even $100,000 a year for an individual small company—the higher war tax rates that we will certainly have means the small man will have to pay a heavy penalty for what few dollars he may be able to lay aside for the purpose of putting his business in good competitive shape compared with the big companies.

For an oil man to get a picture of what he should do at the end of the war let him today make a survey and analysis of his equipment and his business. Let him look at his service stations and pumps, the tanks, hose, loading racks, and the warehouse of his bulk plants. Let him look at his trucks. Let him ask himself: "How will this material look a year or two or three years hence?" especially as he probably will not be able to maintain it properly for lack of repairs and parts, and even paint. Just what shape will it be in at the end of the war? Let him ask: "Just how efficient has it been in the last few years, against the new equipment which has come on the market?"

HAVE operating costs been reduced steadily these last few years by more efficient equipment? To get an approximation of what efficient equipment means, one can read the articles of a few weeks ago prepared by the Standard Oil Co. of New Jersey, showing how it brought a highly unprofitable marketing department into a state of profitable efficiency.

Let the marketer compare each piece of equipment he now has with the very latest that was available at the beginning of the war. Let that comparison be as to greater delivery per minute or hour, and the lower operating cost, and, in the case of service station equipment, as to the greater merchandising and sales value—its ability to attract customers.

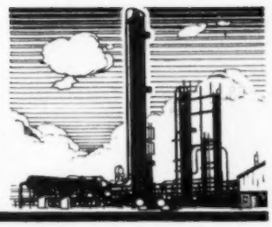
Let the marketer consider where he will be if, within a year or two years after the close of the war, the larger companies, with their greater finances, completely re-modernize all of their retail outlets. The average marketer has but to look at highly modernized outlets with which he is now competing. In the main, most any marketing equipment in and about a retail outlet and the outlet itself that is more than 5 years old can be considered obsolete by today's standards. How much more ineffective for efficient merchandising and distribution will it be 2 to 3 years hence!

Then let the marketer bear in mind that, with the removal of restrictions on the producing, manufacturing and distributing of gasoline and other products, and with the production of automobiles and trucks of new design, greater efficiency, and unquestionably lower sales prices—let him consider what that tremendously expanding market will mean to the oil industry, how it will be fought for. How is a man going to get his share of that expansion with ancient, pre-war equipment?

The sooner a law can be enacted putting a premium on American business setting aside funds for postwar rehabilitation, the more the present war-essential scrap salvage campaign can be speeded up. According to all reports, the steel industry today is not getting enough scrap, and it has great fears as to the next year or two. While much scrap was collected from the general public, in the way of sauce pans, pins and thimbles, nevertheless the real tonnage on scrap, the recurring tonnage, must come from industry—must come from equipment that wears out and becomes obsolete. The more the obsolescence of equipment can be speeded up, the more scrap will be given the steel industry today. That obsolescence is not going to be speeded up if the average oil man, for illustration, knows that he won't have any money left by the end of the war, due to continuing narrow margins and unprofitable price ceilings. Or, as he knows that profits will be taken from him as fast as he can make them.

If the average small businessman, which means the small oil marketing man, can be assured that he will be given a margin and price ceiling that will permit him to have some profits, and that he can put some of those profits away in cash without having to pay excessive taxes on them, then, when he surveys his business for obsolete and little-used or even unused equipment, due to changing gallonage, he will discard a great deal more of that equipment for the benefit of the salvage scrap drive than he will if he knows he will have to make that equipment keep him in business some way, even if inefficient, for a good many years after the close of the war.

THIS matter fits in with the present efforts of oil marketing associations and other groups of oil marketers to prevail upon PAW and OPA to give wider margins. While they are working with those agencies these associations should go up "on the Hill" and talk to their Congressmen about the need for helping them to have on hand at the close of the war the necessary cash with which to rehabilitate their businesses, and to furnish firm orders to America's oil equipment manufacturers so there will not be any dropping off in employment; also, to furnish the oil man with the necessary modern equipment to give additional employment to the returning soldiers and sailors, all of which will permit the oil marketers to give the most efficient competition for the greater volume of business to come in the period tomorrow.



100-Octane Socked

Ickes Urges Refiners to Squeeze Out More 100-Octane from Present Plants. He Says Favoring of Rubber Projects 'Lost' 9 Million Bbls. of Aviation 'Gas'

NPN News Bureau

WASHINGTON—PAW Ickes has added his voice to the plea for more 100-octane gasoline immediately from existing facilities, pointing out that the government is ready to reimburse refiners for losses in adjusting their operations to make more aviation gasoline components.

Similar request was made to Petroleum Industry War Council on April 6 by Bruce K. Brown, assistant deputy petroleum administrator. Addressing himself to the company presidents, Mr. Brown said that their refining departments knew they could squeeze a little more from each barrel of crude. However, this would mean costly adjustments in refining operations—a policy decision that was out of the refining department's hands, hence Mr. Brown's plea to the top executives sitting in the war council. He urged them not to hold off simply because of diffidence about filing a claim for losses sustained.

Ickes Wires 46 Refiners

Mr. Ickes' wire went out April 10 to presidents of 46 refining companies. He disclosed this at his April 15 press conference in discussing "lag" in the aviation gasoline program. He blamed delay on decision of Economic Stabilizer Byrnes, some weeks ago, which gave rubber projects first call on available materials and equipment. This was "a sock in the jaw" to the 100-octane program, he told newspapermen. By this decision 9,000,000 bbls. of aviation gasoline were "lost forever."

From another high-ranking PAW official, NPN learned that this 9,000,000-bbl. total was "lost" in this manner:

How Fuel Was 'Lost'

The second "freeze" of the war projects by Mr. Byrnes resulted in a 90-day delay for a number of 100-octane projects with an aggregate capacity of 100,000 bbls. daily, or a total of 9,000,000 bbls. "lost" for 90 days. These projects will be completed, of course, but their production during the "lost" 90 days is gone forever.

When the first "urgency rating" list was made up last December it included aviation gasoline and rubber projects which could be completed by April 1. These got top priorities. Only rubber projects included, however, were those for making butadiene as it was then the view that copolymerization plants did not need any speeding up.

When it came time to make up the second "freeze" list (projects to be completed in the April-June quarter), Rubber Czar Jeffers requested that enough copolymer plants be included to balance his rubber program—that is, enough to take care of the butadiene capacity included in the first "freeze" or urgency rating list. Also, Mr. Jeffers wanted more butadiene plants included in the second list. There was a lot of scare talk about the rubber situation. And Mr. Jeffers won out. Only a few aviation gasoline projects got on that second list, including one large project that needed only $80,000 more work to complete it.

That is what Mr. Ickes had in mind when he said that Mr. Byrnes had given the aviation gasoline program "a sock in the jaw."

Text of Ickes' Wire

Following is text of Mr. Ickes' telegram, dated April 10, to 46 refining company presidents which was released by PAW:

Recent developments on the fighting front require that the utmost emphasis be placed upon the amount of 100-octane aviation gasoline that we can produce this year. Every additional gallon that we can eke out of our requirements this year will bring us that much closer to ultimate victory over the Axis forces. I am, therefore, taking this means of calling upon you and each individual in your organization to extend your efforts to produce 100 octane aviation gasoline and ingredients now.

Particularly, emphasis should be placed upon the production of each desirable component, such as alkylate, codimer, cumene and base stock. I urge that you employ every possible means of so adjusting your operations as to assure that maximum production is attained. The provisions of the Aviation Gasoline Reimbursement Plan of July 24, 1942, are available to reimburse you for net losses incurred in adjusting your operations to increase production of these desirable components. I look confidently to the industry to develop further means of increasing our output of 100-octane aviation gasoline.

Lifts Worth Refining Receivership

CHICAGO—Worth Refining Co. receivership was lifted by final decree entered in Federal District court here April 15. All assets and property of the debtor have been revested in the reorganized company and original stockholders and directors are now in charge of company affairs, according to Mr. George Phoenix, vice-president. Officers in addition to Mr. Phoenix are T. F. Thompson, president, and E. V. Rehberg, secretary-treasurer. The refinery at Blue Island is now running 3000 b/d under directive of PAW, Mr. Phoenix said. This is about 50% of listed capacity.

WPB Studies Reclamation Of Oils, Solvents

NPN News Bureau

WASHINGTON—WPB on April 15 announced an extension of its chemical products reclamation program to make sure no cutting and lube oils, paints and chemical by-products "go down the sewer". Studies are now going on in 1000 plants by the chemical resources section of WPB's industrial salvage branch to determine where solvents and cleaners, cutting and lubricating oils used in excess of 5000 gal. a year are now being reclaimed—that is, whether inside or outside the plant.

Among the chemicals which can be reclaimed in significant quantities, WPB added, are lube, cutting and hydraulic oils; toluene; benzol, ethyl alcohol and butyl alcohol.

Refinery Scrap Cuts Metal Use

NPN News Bureau

NEW YORK—New Jersey Standard's Bayway (N. J.) refinery used up 15,901 tons of metal last year in completing new construction and extensive alterations for war production, but 10,720 tons of steel and 152 tons of non-ferrous metals were turned up by intensified salvage methods, leaving a net use of slightly more than 5000 tons, the company has announced.

Gulf Completes Houdry Unit At Port Arthur Refinery

Special to NPN

PORT ARTHUR, Tex.—Completion of a new Houdry catalytic cracking unit, which will greatly increase production of 100-octane aviation gasoline, at the refinery of Gulf Oil Corp. here has been announced by J. Frank Drake, president.

New unit is a part of Gulf's aviation gasoline program being carried out in cooperation with the government. It was financed entirely by Gulf, which to date has spent approximately $15,000,000 on increasing its aviation gasoline facilities here, Mr. Drake said. Entire output is under contract to the government.

"Since 1938 Gulf's facilities for producing this super fuel have been expanded almost continuously", Mr. Drake said, "each new unit embodying the latest technological developments. Early in 1940 we added an alkylation plant, the newest development in aviation gasoline manufacture at that time. Early this year we completed a second alkylation plant. This new catalytic cracking unit, too, is one of the latest developments in refining technology.

"The new Houdry unit was about 12 months in building. It covers a large area and includes many novel features. The control room, which houses the instruments and gauges that tell the operators at a glance the conditions at any point on the huge unit and assists them in controlling these conditions for the most efficient operation, is completely air conditioned."

With the ASSOCIATIONS

War Themes Fill N.P.A. Program

Meeting at Cleveland Hears PAW Officials on Refining, Manpower and Materials. Ryan, Collacott Discuss Postwar Problems, Price Policies

NPN News Bureau

CLEVELAND—We'll be 50% over the hump in the aviation fuel construction program by mid-1943 and "we see no reason why this basic program should not be completed by the year's end," Edwin D. Cumming, PAW director of refining, told the 40th semi-annual meeting here April 15-16 of the National Petroleum Assn.

The need for still further quantities of aviation fuel and synthetic rubber will be great during 1943, despite large gains made in 1942, Mr. Cumming said. "There is a wide gap between the combat fuel which is available and that which the air forces feel they should have," he explained. But he emphasized that no combat plane has yet been grounded for lack of fuel.

Mr. Cumming said it would appear difficult, if not impossible, to equal in 1943 the accomplishments in 1942 in increasing aviation fuel production, but declared PAW is confident of the industry's ability "to find numerous means through which unexpected quantities of aviation fuel may be produced not only from new facilities but also from existing plants."

The gain in 1942 in aviation fuel production—made possible by the industry's successful attack on bottlenecks, willingness to go ahead with such steps as transporting isobutane and other raw materials and components of 100-octane "from New Jersey to California or from Texas to Oklahoma without waiting for Washington to underwrite the program"— represents "one of 1942's greatest contributions to the war effort", the refining director said.

1 Out of 3 to Make Aviation 'Gas'

Real increases in 1942 in aviation gasoline output came from plants conceived, constructed and placed in operation before Pearl Harbor. These represent about one-third of the year's progress.

By the end of this year, Mr. Cumming added, one out of every 3 refineries in the U. S. will be making one or more components of 91 or 100-octane gasoline.

"We are still working aggressively on proposals for extensions of aviation gasoline plants. At the present time we anticipate we can fulfill our requirements east of the Rockies by installing only those facilities which involve the minimum use of critical materials and the minimum use of additional crude oil," Mr. Cumming explained.

Demand for critical war products will require the processing of some 3,000,000 b/d of crude oil during the latter part of this year, the speaker said, and an additional 1,000,000 b/d will be required in order to fulfill the country's requirements for kerosine, distillate, heavy fuels, etc. Consequently, it is contemplated that the industry will not be faced with any major disruptions in refinery intake, but the reduced demand for motor gasoline will likely continue thus making it necessary to minimize production of this product.

Mr. Cumming urged refiners who have plants

Dr. Frederick H. Harbison, PAW labor counsellor, warned N.P.A. of seriousness of manpower shortages at the semi-annual meeting

N.P.A. President Harry A. Logan, Bradford, Pa., (center), stepped up to congratulate N.P.A. speakers W. M. Holady, chief, aviation section, PAW refining division (left), and Edwin D. Cumming, PAW refining division director, following the April 15 N.P.A. session in Cleveland

Robert H. Collacott, OPA refined products price chief, outlined price control policies at N.P.A.'s streamlined war session

N.P.A. speakers Robert L. Minckler, PAW supply division director (left), and Frank A. Watts, PAW Materials division director (right), photographed at the meeting with Fayette B. Dow, ODT director of petroleum and other liquids transport and general counsel of N.P.A.

building to let PAW help speed materials to get them into production.

"As you know, we have been working on a so-called zoning system for refinery operations, the purpose of which is to make the maximum possible use of available transportation facilities," he said.

Discusses Price Hike Possibilities

On the question of price, the refining director expected President Roosevelt's latest wage-price freezing order "will make it more difficult for the industry to obtain higher prices for its products. This, in turn, means that the industry can help by closely watching the question of costs, and the extent that PAW can be helpful in correcting inequities will depend largely on the industry's ability to show a good case for any needed price adjustments."

Crude production in District 2 is less than the crude requirement for the district and in order to get full refinery operation it will quite likely be necessary to process increased quantities of west Texas sour crudes "and other sour crudes" which require specialized refinery technique and in some instances special refinery equipment, Mr. Cumming said. He urged refiners to use more sour crudes, saying "it would be helpful in the overall program."

Meeting Was Streamlined

N.P.A.'s 40th semi-annual meeting was a streamlined war session planned for trustees and only 1 representative from each member company. Meeting was held at the Cleveland Hotel, occupying the afternoon of April 15 and the morning of April 16. W. M. Holaday, chief, aviation section of PAW's refining division; Frank A. Watts, director, PAW's materials division; Robert L. Minckler, director, PAW's supply division; Robert H. Collacott, head of the refined products section, petroleum branch, OPA; Frederick H. Harbison, labor counsellor, PAW; and Paul Ryan, chairman of PIWC's subcommittee on postwar readjustments, were the other speakers.

Mr. Minckler urged oil companies to cooperate with PAW zoning directives, said that without PAW Directive 59 we could not have moved oil to Europe for the attack in North Africa and that while the plan hasn't worked 100% it did remove "functional inefficiencies" and created tank cars out of nothing.

The oil industry, by its greater use of overland transportation, foiled Hitler and defeated a direct military attack on U. S. oil shipping, Mr. Minckler said. PAW's 3 ambitions, he declared, are:

1—To make sure that there is no lack of oil for military and other essential activities;

2—To lift restrictions and controls quickly when the need for them no longer exists;

3—To return the industry in the same condition, minus normal wear and tear, that it was before the war.

"Let's be realistic". Paul Ryan, chairman of PIWC's subcommittee on postwar readjustments, urged the N.P.A. meeting

Paul Ryan warned the meeting that industry faces an enormous task after the war in providing employment and holding up the standard of living as envisioned by present-day planners. He urged his listeners to be realistic, said we wouldn't be flying around in private planes after the war and asserted too much "planning" is being done without regard to the question of economics and plain arithmetic.

Manpower Problem Cited

How serious will be the manpower problem was outlined by Mr. Harbison who said it is figured there will be only 1,500,000 industrial occupational deferments in the whole U. S. Out of a total manpower pool of 18-38 year-olds approximating 28,000,000, about 14,000,000 are physically unfit, 11,000,000 will be in military service, and 1,500,000 will get agricultural deferments, he said. He urged refiners to prepare manning tables for the orderly release of workers, since losses are inevitable. Hiring women, older men and the physically unfit are "musts", he said.

Speaking on "Price Control Policies", Mr. Collacott said prices aren't raised to relieve chagrin. OPA considers first the essentiality to the war effort or to civilian life or health; second, hardship—whether widespread enough to threaten the withdrawal of a sufficient number of members from an industry to make the remaining supply of goods or services inadequate for civilian or military needs, he said.

Other OPA Policies

Other lesser policies of OPA, he said, are that a low-priced operator should not be obliged to hold to his individual price ceiling if by so doing he would be forced out of business, leaving the field to his higher priced competitors, and that in general a company should not be forced to perform specific acts at a loss which it would not do except for wartime need.

Mr. Collacott said he agreed that "we should be more watchful of government controls in wartime than in peacetime, but I emphasize that watchfulness should extend as well to the actions of business lest in our enthusiasm for short-sighted opportunistic programs we develop for ourselves the very things we fear from someone else."

But, the OPA executive said, "the heads of many corporations who have been most emphatic in repudiating everything that even hints of interference would be dismayed to find how many cases are on record in which their own department heads have actually invited government aid in furthering their own special interests."

Price control, Mr. Collacott emphasized, was not imposed "for any such an abstract purpose" as to protect the purchasing power of a dollar. While it must accomplish this, in so doing, accomplish protection, for example, of a widow's insurance benefits, endowments of charities and educational institutes, annuitans, etc. He asked not only cooperation, but wholehearted support.

War Products, Processes Studied by N.G.A.A.

'Naturals' Industry Meets at Dallas, Hears Plea for Greater Production of Isobutane; Operating, Technical Sessions Held as 430 Attend

By NPN Staff Writer

DALLAS—War products and processes held the attention of more than 430 natural gasoline industry representatives during the 3-day, 22nd annual convention of the Natural Gasoline Assn. of America which concluded here April 16. The meeting was split into an operating session, two technical sessions, and an "Information Please".

In contrast with last year's atmosphere of gloom over problems presented and discussed, this year's meeting showed optimism over efforts to solve continuing problems by technological advance in line with the nation's war effort.

The increasing importance of natural gasoline to the war effort was brought out both in technical and "off-the-record-Information-Please" sessions.

Make More War Products

Bruce K. Brown, assistant deputy petroleum administrator, appealed for conversion of plant facilities to produce isobutane and isopentane for the aviation gasoline program. His address, "Role of Natural Gasoline Industry in the 100-octane Program", was read by Col. Jacques Morrell of Brown's staff, now on detached duty from Chemical Warfare Service.

Stressing the need for more fighting gasoline raw products, Brown's paper stated:

"Production of aviation gasoline today is limited by the availability of components of suitable quality, particularly the synthetic paraffinic type blending agents known as alkylate, hydrocodimer, etc., and aromatic blending agents such as xylene and cumene. Isopentane, which is produced in large volumes by the natural gasoline industry, is another critical component, the increase in production of which would augment our much needed supplies of fighting grade aviation fuel. Of these critical components, the two which are of particular interest to us in the present connection are alkylate, or the important raw material from which it is made; namely, isobutane, and isopentane.

Need More Isobutane

"Aviation grade alkylate is the term which has been applied to the product obtained by a combination of olefinic refinery gases with isobutane in the presence of a catalyst. The limitation to our production capacity of this material at present is the availability of isobutane. One barrel of increased production of isobutane can be made ultimately into the equivalent of 4 bbls. of additional 100-octane gasoline. It is evident, therefore, that perhaps the most important contribution to the 100-octane program which can be made by the natural gasoline industry is to increase the production of isobutane both now and in the future.

"You are all aware of the shortage of critical construction materials at the present time for the installation of new plants. These materials are needed not only for construction of aviation gasoline plants and rubber plants for components of synthetic rubber but also for the construction of airplanes, escort vessels, tanks, guns, and other highly essential equipment required for the successful prosecution of the war. It is therefore incumbent on each and every one of us to insure minimum use of critical construction materials for any new plant construction while at the same time accomplishing our important objective."

Brown Asks Proposals

Appealing to every manufacturer to review existing plant operations to secure maximum production of isobutane and isopentane, with particular emphasis on time and amount of critical materials for conversion of present facilities, Mr. Brown asked that proposals be submitted to PAW's natural gas-natural gasoline division. "I feel certain that a sufficient outlet can be provided for the isobutane and isopentane so produced over an ample period of time to permit a reasonable return on any new capital invested and that there will be ample demand for the balance of the war for isobutane and isopentane of 95% purity or higher. . . . We urge that all possibilities of increasing production this year be exhausted."

Pointing to large supplies of normal butane currently used for fuel or diverted to motor fuel manufacture, he pointed to butane isomerization as an additional source of isobutane.

"If all available isobutane in this country were segregated from refinery gases and natural gasoline plant gases," Mr. Brown declared, "there still would be insufficient isobutane to meet the requirements for the aviation fuel program."

But butane isomerization is the "key which unlocks the door to additional supplies," he continued, adding, "considerable experience has already been gained in operation of several plants." He disclosed that 10 new plants were scheduled to be in operation by April 1 this year, and 22 more by Jan. 1, 1944. The design capacity of these plants will approximate 25,500 bbls. isobutane daily; smallest plant has 68 b/d capacity, the largest 2850 b/d.

Speaking of the plants so far completed, he said principal operating difficulty has been corrosion by the catalyst; this and other minor problems "are being rapidly solved". Several plants are producing above rated capacity, although at first they were having trouble. One plant he cited as producing only 200-300 b/d when designed for 500 b/d operation; now the operator expects an average of 900 b/d, while it has produced as high as 1100 b/d.

Critical Materials Indefinite

"No definite figures are available for critical materials requirements, largely because of the varying engineering standards in vogue and also because design capacity has not been clearly established in all cases," Mr. Brown continued. "The critical material requirements in any circumstances appears to be modest. It should be of particular interest to natural gasoline plant operators that a considerable portion of a butane isomerization plant are the fractionating facilities. Thus, if a butane 'splitter' is under consideration or can be justified for any reason, enlargement of the project to include normal butane isomerization should also be considered."

He gave a list of developing and licensing concerns for butane isomerization processes: M. W. Kellogg Co., Phillips Petroleum Co., Shell Development Co., Shell Oil Co., Stand-

S. B. Crooks, Cities Service; Col. Jacques Morrell, PAW; and T. W. Legatsky, Phillips, photographed at the N.G.A. A. meeting in Dallas

"Shortage disputes entirely eliminated"

Six months after installation, some 3,500,000 gallons had passed through one of these meters on Naph-Sol's loading rack at Muskegon, Mich. Another at their Green Bay, Wis., marine terminal had recorded 10,000,000 gallons in two years. "No servicing or repairs."

• "Shortage disputes entirely eliminated" . . . In these wartime days, when every gallon is pinched and profit margins are close, this is a significant statement. Especially since the gallonage through Naph-Sol Refining Company's Red Seal printing meters runs at the rate of 2,500,000 gallons a month!

According to Naph-Sol's report, the same is true of deliveries by Red Seal meters on their tank trucks.

Yet, at the same time, "*metering has reduced losses* . . . truck tank compartments formerly had not been gauged properly."

NEPTUNE RED SEAL METERS

NEPTUNE METER COMPANY
Main Office: 50 West 50th Street, New York. Branch Offices at Atlanta, Boston, Chicago, Dallas, Denver, Kansas City (Mo.), Los Angeles, Louisville, Philadelphia, Portland (Ore.), San Francisco, and Long Branch, Ont., Canada.

GASOLINE DISPENSING PUMPS • METERS FOR: BARGE AND TANK CAR UNLOADINGS • STORAGE TRANSFERS • LOADING RACKS • DELIVERY TANK TRUCKS

2011

In picture at left, H. A. Montgomery, Hanlon-Buchanan, Inc., and Paul M. Raigorodsky, PAW, discuss a matter of mutual interest at N. G. A. A.'s meeting. In picture at right C. S. Birch, Engineers & Fabricators Inc., gets a sales talk on N.G.A.A.'s manual of technical standards from H. H. Beeson, Sabine Valley Gasoline Co., and Roberta Hughes, assistant to N.G.A.A. Secretary Bill Lowe

ard Oil Co. (Calif.), Standard Oil Development Co., The Texas Co., and Universal Oil Products Co.

Process Discussed

Discussing a typical butane isomerization process (*see diagram below*), Mr. Brown said n-butane is passed through a catalyst after a "promoter" is added to the feed. Pressure and temperature conditions are "relatively mild", and reaction products are mostly isobutane, unreacted n-butane, and promoter. Gases are stripped to remove promoter for recycling, then fractionated; n-butane is recycled and i-butane goes to storage. Per-pass conversion, Mr. Brown said, is 40-50%; ultimate yield, based on n-butane feed, is 90%+. Catalyst life is about 50 gal. i-butane per lb. catalyst; promoter loss generally is small. Operating costs, exclusive of depreciation and royalty, "are expected to be under 1c per gal. i-butane."

Assuring operators of participation in new developments, he said task of assembling and disseminating available information was in hands of Butane Isomerization Subcommittee of the Aviation Gasoline Advisory Committee. Each operator submits monthly operating reports to committee which summarizes them and transmits summary to all operators and designers. Operator's group meetings are also held.

In closing, Mr. Brown said: "Now that it appears there will be a growing need for normal butane to be further diverted to aviation fuel manufacture, it is definitely in order for natural gasoline manufacturers to give more intensive study to the matter of reducing the vapor pressure of natural gasoline, wherever there is the possibility of diverting the normal butane thus released to aviation gasoline manufacture."

Distillate's War Work Told

The role of distillate operations and cycling plants in the war work was told by J. R. Butler, Cotton Valley Operator's Committee, in refutation of "ill-advised" suggestions that distillate and cycling operations be curtailed and further development prohibited.

"Cycling or pressure maintenance plants have added substantially to the volume of liquid hydrocarbon production," he declared. "There are now between 50,000 and 75,000 bbls. of production each day coming from cycling and pressure maintenance plants, in addition to the large volume of crude distillate being produced from wells which are not now feeding plants," he stated, pointing out that these are fundamentally conservation measures. "It has become more and more evident that, in the distillate fields where unitization was not practiced, wasteful production has resulted."

In line with war requirements for conserving materials, he told the meeting that war products from condensate require about 25% of the steel necessary to produce a barrel of them from crude oil. "By putting into operation fields which have so far been discovered, but undeveloped, we can obtain many more thousands of barrels of production and reserves with the proper cooperation from those officials who hold the purse strings of materials," he declared.

Speaking of specific war developments by the distillate producers, he said the industry is producing the materials for 87, 91, and 100-octane aviation gasoline, toluene, naphtha, and butadiene. By producing individual components the transportation problem may be relieved through concentration of "shortage" products into lesser volumes—reducing shipping space necessary for transportation. Distillate also is going into crude lines, reducing viscosity (and pumping costs) with effect of increasing pipeline capacity. The Cotton Valley operators, he said, have been revamping old steel. One such instance was fabrication of 2 fractionating columns 156 ft. high, and 10 ft. and 9 ft. in diameter, from 55,000-bbl. tanks 22 years old.

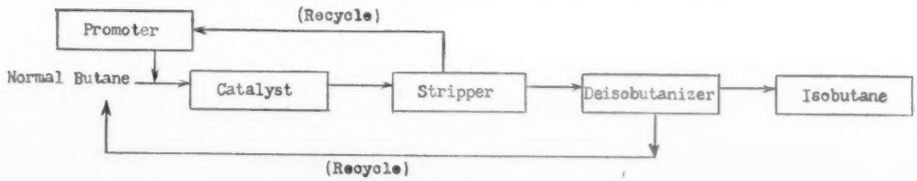
"There are many other contributions of the distillate industry to the war program which have not been mentioned. However, we do know that ill-considered and arbitrary rules which might be placed on the distillate industry would curtail the development of these fields. There is no single panacea for the ills of the oil industry. No set of rules and regulations will fill the shortage and produce the products so necessary to the war effort."

Technical Sessions

At technical session, H. H. Beeson, Sabine Valley Gasoline Co., reported the Technical Committee's progress on two current projects. Plant control tests for determination of sulfur compounds in liquefied petroleum gases, and low temperature fractional analysis of gases.

N.G.A.A. now specifies a test for total sulfur which is somewhat laborious and time con-

Diagram of A Typical Butane Isomerization Process



Plants and Plantations

Plantations half across the world—that's where our peacetime rubber used to come from

Plants right here in the U.S.A.—that's where the rubber is coming from that we must have to win the war The first of several plants is already in operation

Plantation rubber is natural—it's made from the sap of a tree Plant rubber is synthetic—it's made from butadiene and styrene produced from crude oil in American refineries

Butadiene and styrene are derived from petroleum by Universal processes, which can make us forever independent of rubber plantations 10,000 miles from home

Do you think production of synthetic rubber will end with the war?

The oil industry never goes backward

OIL IS AMMUNITION—USE IT WISELY CARE FOR YOUR CAR FOR YOUR COUNTRY

Universal Oil Products Co
Chicago, Illinois

Dubbs Cracking Process
Owner and Licensor

THE REFINERS INSTITUTE OF PETROLEUM TECHNOLOGY

Ray Fish, Sterns-Roger Mfg. Co.; E. O. Bennett, Continental Oil Co.; and F. B. Haverfield, Continental Oil Co., at the N.G.A.A. meeting

mittee now is studying several test methods to develop some easy and rapid method which may be run as a qualitative test for free sulfur, hydrogen sulfide and mercaptans for plant control.

Low temperature fractional analysis was reported on by H. A. Montgomery, Hanlon-Buchanan, Inc., who stated that 9 sets of samples have been analyzed by participating companies in past 4 years; that the group is now testing the merits of the tentative standard procedure written 2 years ago with the intention of revising it if conclusions from correlations of data so warrant. Only one sample was analyzed this past year, although 2 were contemplated.

This sample, 4th in "B" series, was selected to contain much less air than the preceding 3 samples; results of correlations, however, show about same average deviation from most probable values as for others in the series. Average deviation of all laboratories participating show "B-4" series off 4.51%; and other "B" samples 5.26%; results with tentative procedure show less deviation than results using laboratories' general methods.

New Book of Standards

Work of which Technical Committee is most proud, Mr. Beeson said, is the "Book of Standards". This is a collection of association standards—A.P.I. and A.S.T.M. standards—all pertaining to natural gasoline and arranged for easy use to make the book as complete as possible. Selling for $4 to members, book contains a wealth of technical data, and is an excellent companion for data which were made available by Natural Gasoline Supply Men's Assn. 2 years ago. Provision is made for notification of owners when new standards are issued, so book may be kept up to date.

W. L. Bowser, Atlantic Refining Co., and D. A. Sillers, Lone Star Gas Co., reported on status of field tests to determine standard methods of sampling and obtaining specific gravity of two-phase gases. In this report, which dealt with technical details of sampling, meter and well hook-ups, good progress was reported along the road to obtaining reproducible results, though final details of this year's work are not ready for release.

Great interest was evidenced among technicians in the description of the mass spectrometer as an analytical tool of great promise by Dr. O. L. Roberts, Atlantic Refining Co., and "Developments in Analysis of Hydrocarbon Gases by Means of Adsorption Fractionation", by N. C. Turner, Frick-Reid Supply Co.

Describe Mass Spectrometer

In essence, the mass spectrometer is an instrument costing $19,500 which ionizes particles of the gas sample under low pressure. By means of an electromagnetic field and an ion accelerator plate, light ions are deflected more than the heavier ions of butane, propane, etc., thus creating a "spectrum" the peaks of which may be measured. Calibrating the instrument with known gases, spectra of unknown samples are readable. Up to present, all C_5 hydrocarbons have been analyzed, and certain of the hydrocarbons containing up to 8 carbon atoms per molecule have been determined.

Among compounds particularly easy to determine, singly or in admixture, is 1-3 butadiene.

Though instrument cost is high, it will pay for itself against low temperature fractional analysis methods now used in approximately 500 analyses, Dr. Brown declared, adding that cost of operating materials and man hours, plus instrument costs, should be balanced against each other.

Adsorption Fractionation

Using adsorption fractionation as means of separating hydrocarbon gases is developed in a unique instrument which now is in final development stages as an automatic analytical tool.

Basis of instrument is ability of activated charcoal to absorb gases up to C_6. The lighter gases penetrate a column of charcoal more rapidly than the heavier ones, which are absorbed more completely near sample entrance at tower's bottom. Heat then is applied to a restricted portion of the tower. This area is gradually moved toward the top of the tower, a mercury drive accompanying to insure removal of all gases from the charcoal to overhead. By means of a thermal conductivity cell, thermal conductivity of the gases is measured as they are driven from the charcoal in the 8-hour period of analysis. A volumeter, measuring volume of gases going overhead, is utilized to drive the chart of a recorder on which thermal conductivity is plotted automatically. Temperature of gases before reaching the volumeter is at 104° F., low enough to assure condensation of C_6 and heavier hydrocarbons. The volume of C_6+ hydrocarbons is measured in a trap, ahead of the volumeter.

Other Technical Papers

Other papers of interest at the sessions were: "Corrosion in Distillate Wells", by T. S. Bacon, Lone Star Producing Co.; "Potentialities of Alkylation and Isomerization", by Arch Foster, *Oil & Gas Journal;* "Tepetate, Six Years Later", by E. O. Bennett and F. B. Haverfield, Continental Oil Co.; "Normal Butane", by R. C. Alden, Phillips Petroleum Co.; "War Products from Natural Gas and Natural Gasoline," by P. M. Raigorodsky and Dr. Frank Dotterweich, PAW natural gas-natural gasoline division (*see NPN April 14, p. 14*).

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Vaiden Elected N.G.A.A. Head; Peterson Wins Hanlon Award

By NPN Staff Writer

DALLAS—James W. Vaiden, Tulsa, vice-president of the Skelly Oil Co., was elevated from the vice-presidency to the presidency of the Natural Gasoline Assn. of America at N.G.A.A.'s 22nd annual convention here April 14-16. He succeeds Ray E. Miller, Tulsa, Hanlon-Buchanan, Inc.

Mr. Vaiden is the first technical man in many years to head N.G.A.A., which is tending more and more to technological research and advance to solve its problems.

The 4 vice-presidents for 1943 are: H. H. Beeson, Sabine Valley Refining Co.; H. A. Ells, Cities Service; C. R. Williams, The Chicago Corp.; and R. A. Carter, Continental Oil Co.

Director-companies totaling 26 were named.

James W. Vaiden . . . New N.G.A.A. President

Of every 10 Mack trucks built ten years ago—7 are still doing duty! Here Peter Helck sketches a "baby Mack" at dock-side.

ITS MIDDLE NAME IS . . . WORK!

Today's Mack trucks range in size from tough little one-tonners to the biggest Prime Mover in Uncle Sam's Army. But big or little—if its last name is Mack, its middle name is *work!*

For 43 years, the world has watched the way Mack trucks wade into the toughest jobs in trucking. That is why the phrase "Built like a Mack truck" is a part of our language.

Mack Trucks, Inc., Long Island City, N. Y. Factories at Allentown, Pa.; Plainfield, N. J.; New Brunswick, N. J. Factory branches and dealers in all principal cities for service and parts.

Mack

TRUCKS
FOR EVERY PURPOSE
ONE TON TO FORTY-FIVE TONS

BUY U. S. WAR BONDS

IF YOU'VE GOT A MACK, YOU'RE LUCKY . . . IF YOU PLAN TO GET ONE, YOU'RE WISE!

Frank P. Peterson . . . Hanlon Award Winner

They will designate their representative to the board of directors at their pleasure.

Hanlon Award Winner

Anticipated feature of the convention each year is the Hanlon Award—highest award for merit in the natural gasoline industry, and a ranking award in the oil industry. Singled out for the award this year by a committee composed of the association's president, permanent secretary, chairman of the technical committee, and an advisory committee from the board of directors, was Frank P. Peterson, Tulsa, retired assistant manager of production, Mid-Continent Petroleum Corp. Mr. Peterson was unable to attend the convention, so actual presentation of the gold watch which goes with the citation will be at a future board meeting.

Citation of Merit

Citation of merit accompanying the award says of Mr. Peterson in part:

"The saga of this man is almost the complete story of the early history of the natural gasoline and liquefied petroleum gas industries. . . . The record is clear that this man is the father of the Liquefied Petroleum Gas branch of the Natural Gasoline Industry. The product of his research and imagination 30 years ago now is moving to market at the rate of 600,000,000 gal. per year. In addition to his outstanding work in this field—he has made substantial contributions to the natural gasoline industry in his development of early gas test methods and in many other ways.

Peterson Heads Association Of 'Naturals' Supply Men

By NPN Staff Writer

DALLAS—C. D. Peterson, Tulsa, Fisher Governor Co., was elected president of Natural Gasoline Supply Men's Assn. here during the N.G.A.A. convention April 14.

Other officers elected were: A. M. Buxton, Cooper-Bessemer Corp., 1st vice-president; J. A. Knebel, J. A. Coy Co., 2nd vice-president; and V. C. Canter, Frick-Reid Supply Co., treasurer. W. F. Lowe remains as permanent secretary, similar to position he holds with N.G.A.A.

Oil Refining Pushes War Output

Billion Being Invested to Make New And Better Aviation 'Gas', Butadiene, Rust Preventives and Other Chemicals, Jersey Research Head Tells Chemists

By NPN Staff Writer

DETROIT—The petroleum refining industry is investing nearly a billion dollars to make the new and improved products needed to carry on the war, E. V. Murphree, New York, manager of research for the Standard Oil Development Co., told the American Chemical Society at its 105th meeting here April 12-16.

"Most of the processes which supply them represent new tools which have been developed in the last few years," Mr. Murphree said. "Many of them are very recent developments that are just now beginning to be applied commercially. A vast amount of new equipment is being installed for carrying out these newer processes."

The most important contributions of the technologists of the oil companies, said Mr. Murphree, have been the processes for the manufacture of synthetic toluene, of high octane aviation gasoline in large volumes, and of synthetic rubber raw materials.

"The processes produce either pure chemical compounds or mixtures of different classes of chemical compounds," he said. "They, therefore, represent organic synthesis carried out on an enormous scale."

Gives Breakdown of Crude

To show how these new methods have been fitted into the general oil refining procedure in a manner to avoid waste and lost motion, he gave a breakdown, in today's operations, of a typical crude oil into the various fractions from which are obtained the products used in high octane gasoline or synthetic rubber raw materials:

The C_4 fraction (butane) may be converted into aviation gasoline through the alkylation process, using fractionation or isomerization, or both.

"As an alternate, the butane fraction, after the separation of isobutane, can be catalytically dehydrogenated by successive steps to give butadiene.

"The C_5 (pentane), C_6 (hexane) and C_7 (heptane) to 200° F. fractions may be either used directly in aviation gasoline or, as an alternate, selected fractions of these cuts may be isolated by superfractionation and then used in aviation gasoline. The low octane number fractions discarded in the superfractionation may be isomerized if desired into higher octane number fractions.

"The fraction boiling from 200 to 290° F. contains most of the potential as well as the actual C_7 and C_8 aromatic compounds such as toluene and the xylenes. This fraction is preferably processed by hydroforming to convert potential aromatics into actual aromatics. The hydroformed material may be used either directly in aviation gasoline, or the aromatic isolated by extraction.

"The heavy naphtha boiling from 290 to 350° F. can be subjected to severe thermal cracking or reforming to yield butadiene directly and other desirable materials. As an alternate, this fraction may be hydroformed.

"The gas oil fraction boiling from 350° F. to crude bottoms is best processed by catalytic cracking to yield aviation gasoline and raw materials for synthetic rubber. As an alternate, the lighter portions of this fraction can be subjected to severe thermal cracking to yield butadiene and other desirable products.

"The crude bottoms can be utilized in fuel oil."

'Superfractionation' Explained

Fractional distillation, the oldest process used for separating petroleum into various constituents, by modern methods, said Mr. Murphree, is now being applied to give extremely narrow cut fractions of higher octane values and has been termed "superfractionation". It is applied for isolating isobutane from the C_4 fraction, and isopentane, which is considerably higher in octane number than normal pentane, is being isolated in many cases by fractionation from the C_5 fraction.

Further detail on the methods for supplying some of these new wartime petroleum products and the characteristics of certain of the products was given in Mr. Murphree's paper as follows:

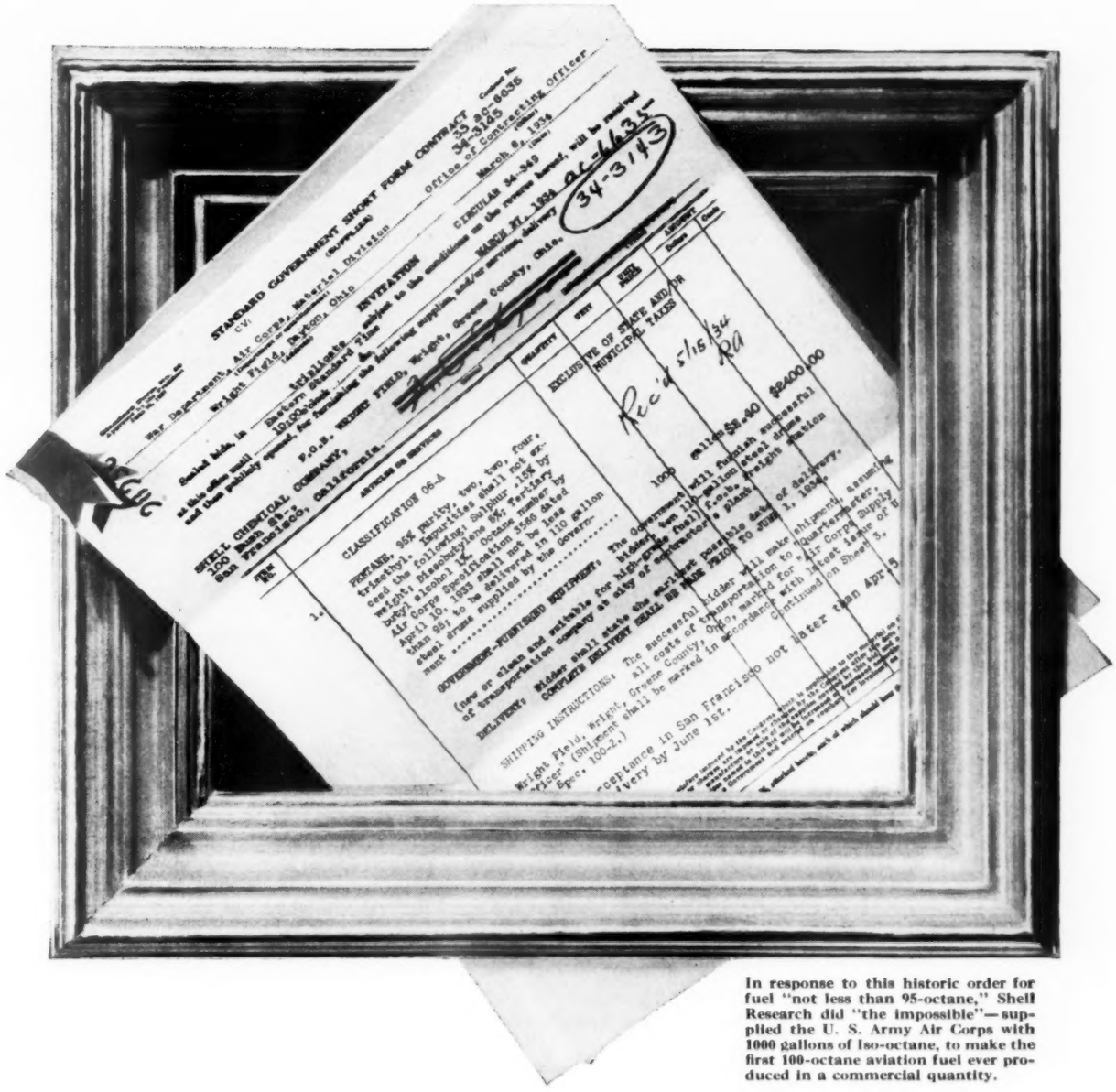
Aviation Gasoline

"In general, virgin naphthas from certain types of crudes are of sufficient high octane number to be used directly in aviation gasoline. The lower octane number material can be isomerized or further processed to give naphthas of sufficiently high octane number to go into aviation gasoline. Hydroforming may be applied to a virgin naphtha fraction having a boiling range of 200 to 300° F. for preparation of an aromatic blending agent to be used in aviation gasoline. For conversion of gas oil into aviation gasoline and aviation gasoline raw materials, such as isobutane and butylenes, catalytic cracking has most general application . . ."

"In addition to catalytic cracking, hydrogenation is being applied on a limited scale for production of aviation gasoline from gas oils. In general, where new equipment is involved, the hydrogenation operation is not as attractive as catalytic cracking. Hydrogenation is also being applied for converting certain olefinic polymers to high octane saturated compounds suitable for use in aviation gasoline.

Butadiene

"Butadiene for use in the manufacture of synthetic rubber is being produced both from normal butane obtained from natural gas fields


STANDARD GOVERNMENT SHORT FORM CONTRACT
War Department, Air Corps, Materiel Division, Wright Field, Dayton, Ohio
Office of Contracting Officer
CIRCULAR 34-349
March 6, 1934
34-3143
SHELL CHEMICAL COMPANY,
San Francisco, California.
WRIGHT FIELD, Wright, Greene County, Ohio.
CLASSIFICATION 06-A
PENTANE, 95% purity, two, two, four, trimethyl.
Impurities shall not exceed the following: Sulphur .15% by weight; Dimethylene 6% Tertiary butyl alcohol 1% Octane number by Air Corps Specification 3566 dated April 10, 1933 shall not be less than 95; to be delivered in 110 gallon steel drums supplied by the Government
1000 gallons $2.40 $2400.00
The Government will furnish successful bidder ten 110-gallon steel drums f.o.b. plant, freight station
Bidder shall state the earliest possible date of delivery.
(new or clean and suitable for high-grade fuel) f.o.b. plant, freight station of transportation company at city of refinery.
COMPLETE DELIVERY SHALL BE MADE PRIOR TO JUNE 1, 1934.
SHIPPING INSTRUCTIONS: The successful bidder will make shipments, consigned to Quartermaster, Wright Field, Wright, Greene County, Ohio, marked for Air Corps Supply Officer" (Shipment shall be marked in accordance with latest issue of U. S. Army Spec. 100-2.)
Acceptance in San Francisco not later than April 5
Delivery by June 1st.
Continued on Sheet 5.

In response to this historic order for fuel "not less than 95-octane," Shell Research did "the impossible"—supplied the U. S. Army Air Corps with 1000 gallons of Iso-octane, to make the first 100-octane aviation fuel ever produced in a commercial quantity.

"YOU OUGHT TO FRAME IT"

SO HERE IT IS, frame and all—a masterpiece of foresightedness on the part of the Army, on which America's predominance in aviation fuel was built.

The price offered—$2.40 a gallon—was only a fraction of the cost . . . a bargain, particularly, as Shell Research responded with one thousand gallons of Iso-octane fuel, 5 octane numbers better than hoped for.

Shell's production of 100-octane gasoline has been multiplied since Pearl Harbor, and even though the combined production of all American refiners—for our own military aviation, and for the United Nations—has been vastly increased, Shell has maintained its former share of the total production.

Incidentally, the price today—as the Government pays no tax—is no more than you pay for your motor fuel—not $2.40.

• • •

Twice since the original Iso-octane achievement 9 years ago, scientists at the "University of Petroleum," Shell research laboratories, have "hit the jackpot" in aviation fuel research. They had a major part in developing the Alkylation Process: Result, *more* aviation gasoline from a barrel of crude.

And last year they were responsible for a new and plentiful "stepper-upper" which again increased the yield of 100-octane fuel.

After victory is won, these developments in military fuel will become a part of your everyday life—in finer fuel for you.

SHELL

SHELL RESEARCH: ***Sword of Today – Plowshare of Tomorrow***

or refinery operations and from normal butylenes obtained from cracking and particularly catalytic cracking. In addition, a certain amount of butadiene is being obtained from severe thermal cracking operations. This latter production is part of the so-called 'quick' butadiene program.

"Production of butadiene from butane is really a two-step operation involving, first, the production of normal butylene from normal butane and then the conversion of the normal butylene to butadiene. Both of these steps are carried out in the presence of catalyst. Production of butadiene from refinery butylenes involves, first the segregation of normal butylenes and then the conversion of normal butylenes to butadiene through the use of catalyst. The processes being applied for conversion of normal butane to butadiene have been developed by the Universal Oil Products Co., Phillips Petroleum Corp. and by the Houdry Corp. The process used for conversion of normal refinery butylene to butadiene has been developed by the Standard Oil Development Co.

"It will be noted in starting with normal butane and starting with refinery butylenes, both operations involve about the same number of steps. In the case of starting with field butane, the normal butane must first be isolated. This is then converted in two catalytic stages into butadiene, the conversion per pass, however, being incomplete. Separation of lighter products occurs between both steps. These lighter products are hydrogen and products of cracking. The C_4 fraction isolated after the second catalytic step is subject to extraction to remove the butadiene. Unconverted C_4 fraction is recycled.

"Where refinery butylenes are the starting materials, normal butylenes must first be segregated although it is not essential to produce a fraction of high purity. This normal butylene fraction is then subjected to catalytic dehydrogenation and in this step some cracking occurs and the conversion is not complete. The product produced is fractionated to give a C_4 fraction containing the butadiene. This fraction is then extracted to remove the butadiene and the unconverted material is recycled. Equipment is being installed to produce butadiene from both raw materials on a relatively large scale. The major portion of butadiene produced from oil will, however, be produced using refinery butylenes as the raw material.

"The synthetic rubber program involves production of Butyl rubber on a relatively large scale. The main raw material for Butyl rubber is isobutylene which can be removed from refinery C_4 fraction by extraction. The bulk of isobutylene used for Butyl rubber will originate from catalytic cracking.

Other Developments

"There have been important developments along other lines. A great deal of military equipment requires for best performance lubricating oils having special detergent properties. These detergent properties are contributed by special addition agents, and oils containing these addition agents tend to keep carbon and lacquer deposits from forming on various parts of the engine with the result that the engine is maintained in a much cleaner condition than would otherwise be the case.

"Movement of parts of aeroplanes, cannon and other military equipment is in many instances controlled by transmission of pressure by a fluid. The fluids used for this purpose are generally classified as hydraulic oils. Since the equipment in which hydraulic oils are used is subjected to widely varying temperatures and especially to very low temperatures, these oils must have a very slow change of viscosity with temperature. Normal straight petroleum oils have far too great a variation of viscosity with temperature to be applied directly to this service. Certain substances have been developed which when added to petroleum oils give the desired property.

"Another interesting application of addition agents is for the production of an asphalt which is suitable for use in constructing roads and runways of airports under wet conditions. Normally asphalt, when mixed with wet aggregate will not give a bond that adheres and hence roads or runways built in wet weather will probably disintegrate. By addition of special materials in small amount to an asphalt it is possible to alter the asphalt so that it will adhere to wet aggregate.

Rust Preventives Guard Equipment

"Since the United States is fighting at various points throughout the world, much equipment must be shipped by water for long distance. Without suitable protection such equipment will corrode during shipment and reach its destination in an unusable condition. There is therefore the need for rust prevention coatings in large quantities. The petroleum industry has met this need by providing rust preventive oils which are petroleum oils containing special addition agents to give adhering films and to prevent rust. Many of these oils have the property of displacing water from metal surfaces.

"Along more strictly chemical lines, production of synthetic ethyl, isopropyl and higher alcohols, as well as their derivatives, is continuing on an increasing scale. Naphthenic acids, phenols, and vanadium are being produced from petroleum. There are many interesting new organic chemical developments based on petroleum. The future holds great promise in this field.

Oil—Weapon for Offensive War

"In addition to the accomplishments along process and product lines reviewed, great strides have been made in the use of petroleum as an offensive weapon. There have been two phases to this development. One phase has been to produce new or improved equipment for applying petroleum. The second phase has been to convert petroleum into forms more suitable for use. Through research carried out in the petroleum industry in cooperation with Chemical Warfare Service and with the Office of Scientific Research and Development, very destructive incendiary bombs have been developed. Improvements have been made in chemical and smoke bombs. The effectiveness of flame throwers has been greatly increased. Smoke generators of outstanding efficiency have been produced.

Post War Autos

Egloff Sees Plastic Cars With Small Engines Running on 100-Octane Fuels

By NPN Staff Writer

DETROIT—The new automobile in the peace period to come will be designed and built primarily upon the great knowledge gained in the war by the aviation, chemical, wood, and metal industries, Dr. Gustav Egloff, Chicago, director of research, Universal Oil Products Co., told the American Chemical Society at its meeting here April 12-16.

Inventions and production capacities that in normal times would require a quarter of a century or more to develop have been accomplished in 3 years, Dr. Egloff said. The new engines with enormous power output for automobiles will be midgets compared to the old engines. There will probably be two grades of automobile gasoline—one of about 75 octane for the old cars, and 100-octane for the new ones, he added.

"New construction materials from plastics, glass, plywoods, and light alloys made available during the war period will be used for the new automobiles after the war is over," said Dr. Egloff. "The competition that the automobile industry faces will be sharp since small airplanes now used as flying jeeps and helicopters will definitely take over some of the transportation of the automobile.

Sees Doubled Efficiency

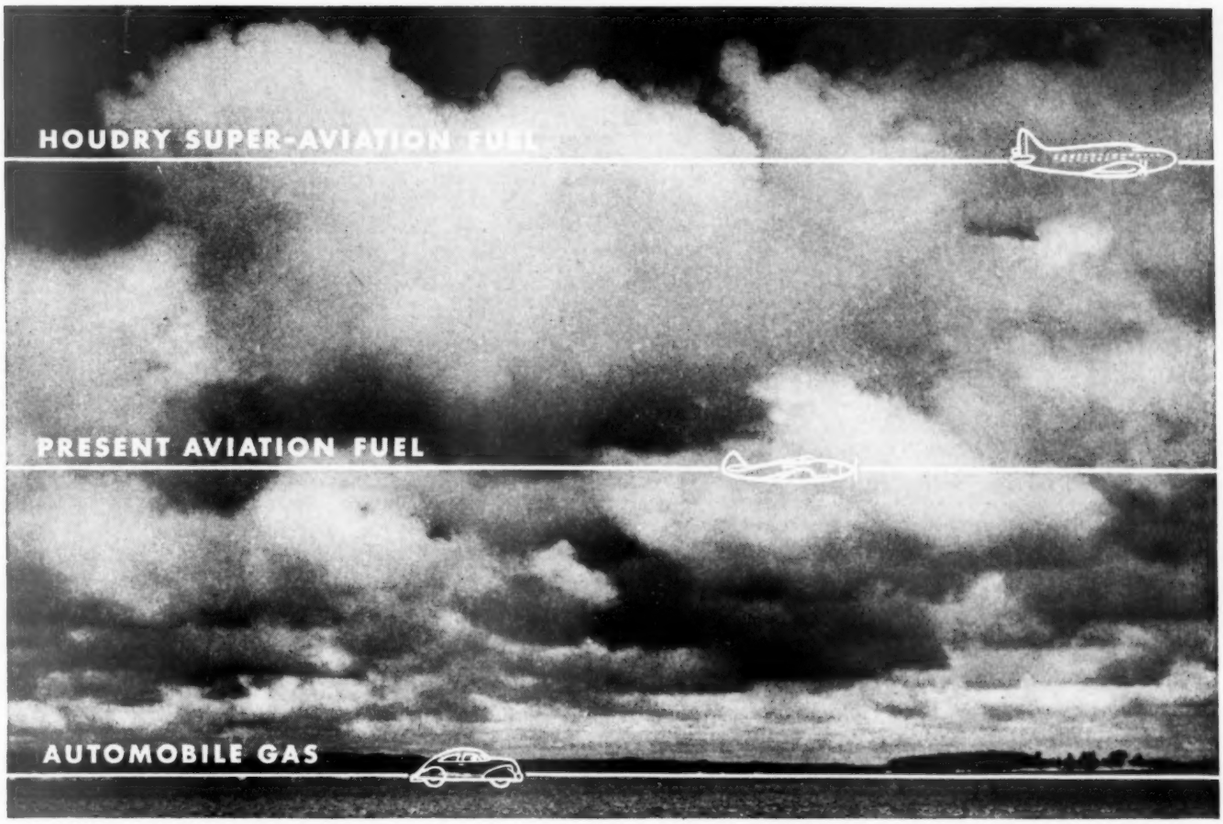
"The price range of the small airplane will be low enough to compete with the automobile. Knowledge gained from the use of 100-octane gasoline in the engines of fighting, bombing and transport planes will bring about an automobile engine design having an efficiency at least twice that of any of our previous models.

"The aviation gasoline of today will be the automobile gasoline of the future. Miracles have been performed in aviation which can be carried over into the automotive industry.

"The automobile public will demand a new car, not a "dressed up" 1942 model. The buying public is rapidly learning of the many new construction materials and 100-octane aviation gasoline which will be available for their cars. All the science and technology learned from a long war must be packed into new cars when peace arrives.

"Body designs will incorporate magnesium and aluminum alloys; new steels; plywoods; plastics of many types; and glass containing no silica that will make night and day anti-glare windows which rain or snow do not wet or cover. Transparent supporting posts will be used which do not obstruct or distort vision, and visibility will be complete from any position in the car.

"The chemist has played a profound role in all of these developments with some of his most outstanding work resting in the synthesis of pure hydrocarbons and blending them to produce the superb aviation gasolines, lubricants, synthetic rubbers, and plastics. Tailored lubricating oils are giving greater length of service to engines operating under more severe conditions than ever before.



As superior to present aviation fuels as they are to automobile gas

The new Houdry Adiabatic Process offers an open invitation to the aircraft engine designers of America:

"Let your fancy take flight! Let your fondest imaginings take shape on paper! Go ahead and design the engines to power the planes of the future."

For the first time, petroleum chemistry has caught up to and passed aeronautical engineering.

Houdry scientists have developed a new catalytic process that can provide America with a super aviation fuel. A fuel vastly superior to any ever produced by any known processes. It's as far ahead of present aviation gasolines as they in turn are ahead of third grade automobile gas. It's so much better, in fact, that today's aircraft engines cannot fully use its capabilities.

Will Improve Quality of Present Aviation Gas

Until aircraft engine design catches up to it, the new Houdry Adiabatic Process will be useful principally in providing an additive, to raise the octane-rating of currently produced aviation gas. Even so, significant improvements in performance may be expected. Greater speed, power, range and load-carrying capacity for American aircraft!

The new process is not experimental. A semi-commercial unit is now in operation, its total production reserved for testing by the armed forces and Houdry technicians. In addition to proving the process, this unit provides a large-scale pattern of design, engineering and material specifications for immediate use in construction of full scale plants.

Refineries employing the Houdry Adiabatic Process will be simpler and less expensive to build than present-day catalytic crackers. Less time and smaller amounts of critical materials will be required.

90% of All Catalytically Cracked Aviation Gas Made by Houdry Process

The new adiabatic process is the latest development of the famous Houdry Catalytic Process which already has contributed mightily to America's war effort. In fact, Houdry plants last year produced more than 90% of all the catalytically cracked aviation fuel made in the world.

All Houdry Processes are available to American manufacturers without restriction, under license arrangements subject to approval by the United States Government.

HOUDRY CATALYTIC PROCESSES
... FOR VICTORY IN WAR
... FOR PROGRESS IN PEACE

THE HOUDRY PROCESS CORPORATION
WILMINGTON, DELAWARE

PRODUCTION NEWS

PAW May Quotas

51,300 b/d More Production Certified In May; Texas Hiked to Feed 'Big Inch'

NPN News Bureau

WASHINGTON—A May crude production rate of 4,237,400 b/d of all petroleum products was certified to producing states by PAW, April 19, compared with 4,186,100 the previous month.

Only major change was Texas, up 60,000 b/d from April. This increase is needed, PAW said, to feed the western terminal of the "Big-Inch" at Long View, Tex.

PAW pointetd out these significant changes over the past year—May, 1943 certification compared with May, 1942 actual production:

California—822,700 b/d compared with 665,000 b/d; Illinois—250,600 b/d compared with 300,100 b/d; Indiana—16,000 b/d compared with 20,200 b/d; Kansas—309,700 b/d compared with 259,100 b/d; Kentucky—23,500 b/d compared with 13,300 b/d; Oklahoma—379,000 b/d compared with 416,500 b/d, and Louisiana—359,300 b/d compared with 308,900 b/d.

The following are certified production rates for May, 1943, and April, 1943 in barrels per day.

May Quotas—Total Petroleum Liquids

	May 1943	April 1943
District 1		
New York	15,000	15,000
Pennsylvania	50,000	50,700
West Virginia	17,500	18,900
Total	82,500	84,600
District 2		
Illinois	250,800	251,900
Indiana	16,000	16,000
Kansas	309,700	309,900
Kentucky	23,500	20,000
Michigan	62,100	63,700
Nebraska	2,400	2,600
Ohio	9,700	9,700
Oklahoma	379,000	379,300
Total	1,053,200	1,053,100
District 3		
Arkansas	73,000	78,600
Louisiana	359,300	359,300
Mississippi	50,000	50,000
New Mexico	105,700	105,700
Texas	1,562,000	1,502,000
Total	2,150,000	2,095,000
District 4		
Colorado	7,400	7,400
Montana	24,600	24,600
Wyoming	97,000	97,100
Total	129,000	129,100
District 5		
California	822,700	823,700
Total U.S.	4,237,400	4,186,100

Third Report on Kansas Crudes Issued by Bureau of Mines

NPN News Bureau

WASHINGTON—A third report on analyses of crude oils from some of the major producing fields of Kansas, supplementing similar publications of 1922 and 1928, has been issued by Bureau of Mines, it was announced April 16.

The report presents analyses of 174 individual samples, including distillation data and other characteristics such as specific gravity, color, viscosity, and sulfur content.

The state's cumulative production from 1889 to 1940, inclusive, which amounted to 1,121,064,000 bbls., including Oklahoma production for the years 1905 and 1906, is tabulated on an annual basis. Other tables give information concerning location, date of discovery, depths and ages of producing sands, and cumulative production of individual fields. General characteristics of crude oils also are tabulated from information obtained by the same methods of analysis and interpretation as outlined in earlier Bureau publications.

Analyses of Kansas crude oils may be found in report of investigation No. 3688, "Analyses of Crude Oils from Some Fields in Kansas," by the late E. C. Lane, assistant petroleum chemist at the Bureau of Mines Petroleum Experiment Station at Bartlesville, Okla., and E. L. Garton, assistant physical chemist at the same station.

RFC to Help Finance Oil Exploration

NPN News Bureau

WASHINGTON—RFC has decided to help finance the search for new oil deposits.

Definite announcement of the corporation's willingness to modify its lending policies to meet these needs came in a letter from Chairman Jesse Jones to Sen. Joseph O'Mahoney, Wyo., who pointed out that the decision carries out the recommendations made by his Senate public lands committee. PAW had approved the committee's recommendation.

In his letter to Sen. O'Mahoney, Chairman Jones said:

With further reference to our several conversations, the directors of the RFC, as you know, some time ago agreed to waive the requirement of participation by private lending institutions in loans to the oil industry, either established or in the development stage.

Loans will also be made for refunding existing indebtedness where necessary to protect a borrower who may be unable to meet his payments due to loss of earnings through inability to maintain his production or secure proper storage or transportation facilities through lack of necessary priorities, all such loans to be so secured as reasonably to assure repayments.

The Corporation will also make loans for development purchases where satisfactory security other than the prospect of striking oil can be offered. We recognize the desirability of carrying out the recommendation of the Senate Committee on Public Lands to establish loans for a longer term than may now be possible, in order to stimulate the search for new sources of oil.

Loans may be made for such reasonable time as the security and circumstances justify, and the rate of interest will be 4%.

Had Pointed to Need

The Senate public lands committee, following hearings on oil production, had pointed out: "The nation's need for new oil reserves is so great that the operator who already has good oil property should be able to offer that property as security to the RFC for a loan to be paid back over a sufficient term of years, provided the advance is to be used in the exploration of new fields."

The committee recommended that PAW, WPB and RFC take steps "to finance exploratory drilling upon a sound financial basis."

In releasing Chairman Jones' letter, Sen. O'Mahoney also made public a letter from Deputy PAW Davies to Mr. Jones supporting the committee's recommendation.

"After careful analysis," wrote Mr. Davies, "we find ourselves in complete agreement with the committee."

Moves to End Elk Hills Leases

NPN News Bureau

WASHINGTON—Interior Secretary Ickes has sent to Congress a proposed bill to terminate leases at the end of their term in the known geological structure of Elk Hills oil and gas field, California, "which were added to naval petroleum reserve No. 1 by Executive Order 9257 as amended by Executive Order 9270." These leases could be cancelled if they were draining or susceptible of draining the reserve. Area covered by the bill embraces 5 leases totaling 640 acres.

Ask Ruling on Oil Overtime Pay

NPN News Bureau

WASHINGTON — PAW has been requested by the PIWC production committee "vigorously" to seek an interpretation from the Labor Department on application to oil industry of Executive Order 9240 on overtime pay.

Production Director Knowlton and Labor Counselor Harbison were requested to follow matter.

The committee acted after it was informed by American Association of Oil Well Drilling Contractors that Labor Secretary Perkins had denied their petition for exception to the order. Miss Perkins' denial was issued March 9.

Bell Oil Buys Texas Acreage

NPN News Bureau

TULSA—Purchase of 480 acres in Grey and Wheeler counties, Texas Panhandle, by Bell Oil & Gas Co. from The Ohio Oil Co., Findlay, Ohio, has been announced by Bell. There are 12 wells and about 360 acres of undeveloped land, all adjoining Bell's properties. The wells are generally producing from the Dolomite formation. Because of their depth and the low allowable in the past, development in the area has not been as active as it might otherwise have been, the company said.

INDEPENDENTS!

ARMSTRONG OFFERS YOU THE KEY TO SUCCESS

INDEPENDENTS who are displaying real enterprise are receiving *substantial returns* per sale because they are recognizing the importance of doing business on the *right basis*. Particularly profits from the sale of tires are becoming more and more impressive to those Independents who conduct a well organized tire department with vigor and enterprise.

Outstanding among real tire merchants are Armstrong's Independents. They occupy an established position in their communities as recognized sources of supply for the best tires. Under present conditions, they are able to make a *real business* of the sale of tires because they have certain important advantages under the Armstrong Square Deal Plan for Independents which you should know about. Here are a few:

Excellent Distributor Cooperation

The Armstrong method of distribution is a model for the industry. There are no "company stores" under the Armstrong plan. Nor are there any "favored" dealers or distributors. Every Armstrong distributor and dealer has a status that is clearly defined. Under a system which does not countenance "special arrangements," hidden discounts or territory raiding, the Armstrong family of distributors and dealers work for the common good in an atmosphere of mutual cooperation and respect. Every dealer gets the full, whole-hearted backing of the entire Armstrong organization, from the plant office right on through his distributor's organization.

Full Profit At Once

Independents who have labored under a discount system which defers a reasonable profit until maximum quotas are fulfilled are the first to appreciate Armstrong's long standing policy of granting *the lowest net discount* AT THE TIME OF PURCHASE. In these days, a full profit realized on every sale, as the sale is made, is a tower of strength to Armstrong's Independents.

Territorial Protection

Complete control over Armstrong sales in his territory is exercised by every dealer and distributor. There are no exceptions — no loopholes — no hidden technicalities — no chiseling. The Armstrong policy in this respect is clear-cut and is an assurance that every Armstrong dealer can build for a secure future—as thousands can testify.

Rubber-Saving Mileage

The Extra Mileage delivered by Armstrong tires is a matter of record which has become more impressive with each passing year. Armstrong Independents have the upper hand today because they have established a reputation in their communities for tires that are true rubber-savers.

The Armstrong Guarantee

The strongest Road Hazard Guarantee in the industry—unmodified even in wartime — stands behind Armstrong's line of regular passenger car tires — all grades.

Square Deal Plan

The strength of Armstrong Independents is a natural result of the opportunities they derive under the Armstrong Square Deal Plan. Where other dealers falter under the stress of wartime perplexities, Armstrong Independents continue to operate with the benefit of a fully cooperative program which has enabled them to survive every crisis. How can this program help you? Find out now!

★ ★

For the Right Answers to Real Problems

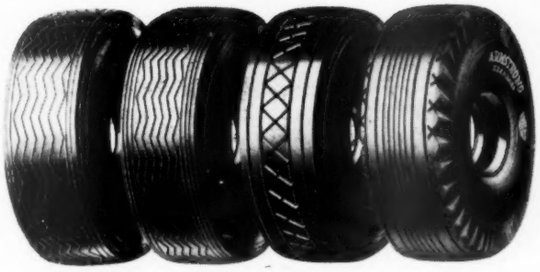
WRITE FOR FULL DETAILS

of the Armstrong Plan for Independents

THE ARMSTRONG RUBBER CO.
WEST HAVEN, CONN.

★ ★

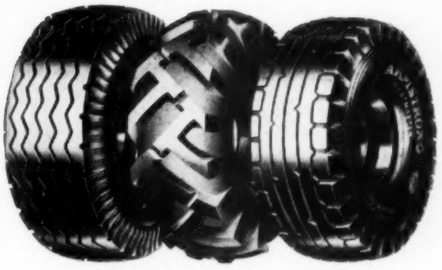
ARMSTRONG PASSENGER CAR AND TRUCK TIRES



Armstrong's line of regular passenger car tires of high profile, compression-tread construction, backed by Armstrong's famous written Guarantee, will give your customers the plus-miles that count for victory.

TIRES FOR WAR WORKERS

A prime favorite with the vast army of workers in the war plants is Armstrong's "Standard" (Grade II) tire which gives excellent mileage at extremely low cost. This sturdy, good-looking tire is a customer-getter wherever war industry is located. Armstrong's range of tires for war workers is a complete one. Send us your inquiries.

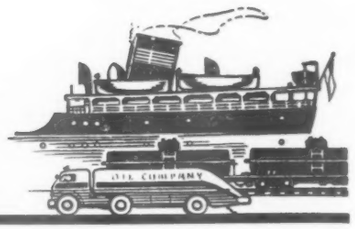


TIRES FOR TRUCKERS

At any speed and with any load, Armstrong truck tires are ace-high for trouble-free endurance. The fame of their unsurpassed carcass strength brings truckers to the doors of Armstrong Independents, from coast to coast. Complete line up to 14.00-24 size, including Over-the-Road, Delivery, Mud-and-Snow, and Military Type Non-Directional Mud-and-Snow treads.

THE ARMSTRONG RUBBER CO. GENERAL OFFICES AND PLANT—WEST HAVEN, CONN.
SOUTHERN PLANT—THE ARMSTRONG TIRE & RUBBER CO., NATCHEZ, MISS

Oil TRANSPORTATION



Truck Weights

Eased Restrictions are Numerous but Difference in Product Weight per Gallon Still Forces Part-Loads in Many Cases. PAW Hopes to Remedy this Flaw

(This is the third in a series of NPN articles on trucks in general and tank trucks in particular—Ed).

By Oliver Knight
NPN Staff Writer

WASHINGTON—Officials here are in agreement that trade barriers which formerly interfered with interstate truck movements are rapidly being leveled. But there is one remaining obstacle to maximum tank truck use which PAW is preparing to attack—partly-filled tanks due to the difference in weight between gasoline and fuel oil.

Petroleum transporters, as a good business practice, designed their equipment to handle the maximum amount of products they could to meet state size and weight laws. In the past, their principal commodities have been gasoline and kerosine.

With gasoline figured about 6.6 lb. to the gal., a full tank truck just about measured up to the maximum weight limitation.

Now, PAW and ODT are encouraging tank truckers to haul more fuel oil.

But with fuel oil figured at 7.6 lb. to the gal. a tank truck must operate only partly full or be substantially over the weight limit. For example, a 4200 gal. tank truck loaded with gasoline might meet the maximum weight law exactly, but loaded with fuel oil the same truck would be 4200 lbs. overweight.

PAW officials expect to take the matter up with state governments this summer and are hopeful state officials will recognize the unusual character of the case and take steps to allow a full tank truck loaded with fuel oil to be overweight.

Officials of government agencies, highway associations and truck organizations say there are a few "bad" states left, but they are isolated cases. In general, they report, serious interference with truck shipments is falling off, and complaints are not nearly so numerous as they once were.

One reason is that state legislatures, meeting in most states this year, are passing laws in some instances and state officials are taking action in other instances to minimize impediments to highway transportation.

Most of the legislation passed so far, National Highway Users Conference said, has the clause "for the duration" inserted.

Because of that qualification, officials pointed out that more permanent highway legislation was passed before Pearl Harbor than since.

All of which means that when the war is over, temporary measures will expire and the trucking industry will be right back where it started—fighting for permanent changes in state laws.

At a conference of state governors here last spring, Public Roads Administration urged adoption of maximum weights of 96 in. width; 12.5 ft. height; 35 ft. single vehicle length; 45 ft. combination length; 600 lb. weight per inch width of tire; 18,000 lb. weight on a single axle; 30,000 lb. weight on two axles; and 40,000 lb. on any other combination of axles and vehicles.

American Assn. of Motor Vehicle Administrator recently prepared a chart showing that the states which now equal or exceed those limits, without qualification, are:

Alabama, Arizona, Arkansas, California, Delaware, District of Columbia, Florida, Georgia, Idaho, Illinois, Indiana, Iowa, Kansas, Kentucky, Louisiana, Maine, Maryland, Massachusetts, Michigan, Minnesota, Montana, Nebraska, New Hampshire, New Jersey, North Carolina, North Dakota, Ohio, Oklahoma, Pennsylvania, Rhode Island, South Carolina, South Dakota, Utah, Vermont, Virginia, Washington, Wyoming.

Sights Call for Million Trucks

NPN News Bureau

NEW YORK—Truck manufacturers face a backlog of more than 1,000,000 potential truck sales by the end of 1943 because normal truck requirements are not being met.

This is the deduction of F. F. Staniford, sales manager of Mack Trucks, Inc., who said truck sales averaged 44,500 a month from 1937 to 1941, inclusive. About 6 out of every 100 normal truck requests have been met, due to rationing, in the last year, he said.

Oil Deliveries to East to Hit 1,611,000 b/d In First Quarter of 1944, ODT Reports

NPN News Bureau

WASHINGTON—ODT's comprehensive review of overland transportation to the East Coast—estimating that daily deliveries will hit 1,611,000 bbls. in first quarter of 1944—revealed several new developments in petroleum transportation.

Foremost among the new developments reported by ODT Eastman in a 12 page letter to Rep. Edith Nourse Rogers and 19 other New England congressmen was the statement that initial capacity of the 20-in. products pipeline may be cut from 235,000 b/d to 166,000 b/d because of pumping equipment shortages.

"We are advised," he wrote, "that the pumping equipment is more critical than the pipe. For this reason, it is possible that only every other pump station may be installed initially."

May Change Barge Plan

Barge program may be changed a bit, too, Mr. Eastman asserted. At present, 116 dry cargo steel barges are being converted with more than 30 already completed, 121 tugs and tows are being built, 307 wooden barges of 6000 bbl. capacity are under construction.

But WPB is considering construction of 168 steel barges of 9500 bbl. capacity rather than build an additional number of wooden barges to replace converted steel barges.

To replace "several hundred" tank cars lost in wrecks during the last year, ODT has asked WPB for 5000 Type 103 tank cars and 250 high pressure cars for products used in synthetic rubber, he said.

ODT's estimate of future oil volume moving by various methods into District 1 was given in a table, as follows:

Forecast of Deliveries by All Methods Into District 1 April, 1943, to March, 1944

(Thousands of Barrels per Day)

Period	Pipe Lines	Barges: Great Lakes	Barges: Miss.-Ohio	Barges: Gulf Intra-Coastal	Barges: Total	Tankers Gulf-Florida	Tank Cars§	Total Transportation
2nd Quarter—1943	212	39	35	70	144	30	885	1271
April	204	8	35	65	108	30	860	1202
May	216	50	35	70	155	30	897	1298
June	216	60	35	75	170	30	697	1313
3rd Quarter—1943	365	76	35	90	201	30	862	1458
July	216	76	35	80	191	30	897	1334
August°	365	76	35	90	201	30	854	1450
September†	514	76	35	100	211	30	835	1590
4th Quarter—1943	482	40	35	100	175	30	860	1547
October	482	65	35	100	200	30	860	1572
November	482	50	35	100	185	30	860	1557
December	482	5	35	100	140	30	860	1512
1st Quarter—1944	621	0	35	100	135	45	810	1611
January‡	621	0	35	100	135	35	810	1601
February	621	0	35	100	135	50	810	1616
March	621	0	35	100	135	50	810	1616

Meet one of our STAR SALESMEN

THIS YOUNG MAN and his eye-catching playmates make up a hard-hitting force of salesmen-in-print for Phillips 66 Motor Oil. Watch for them in the Phillips ads. This Spring these Phillips youngsters are telling the story of "Phillips Finest Quality" to readers of 145 midwest newspapers.

More than 30,000,000 advertising impressions in 5 months to accelerate the ever-increasing consumer preference for PHILLIPS 66 MOTOR OIL!

Plus 60 Messages a Week on 25 Midwest Radio Stations . . . messages that can be heard by more than 11,000,000 listeners

It's a "triple-header" selling program . . . newspapers, farm papers and radio . . . and already it's *getting results* in terms of increased sales of Phillips 66 Motor Oil . . . increased change-over business for Phillips 66 Dealers.

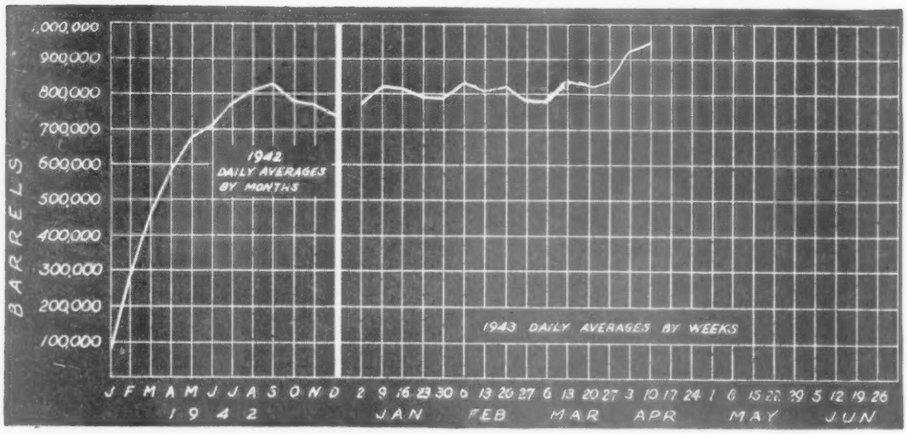
This kind of selling is one reason why more and more midwest motorists will be specifying Phillips 66 Motor Oil when it's time to drain and refill.

What's more, Phillips 66 Motor Oil is a *quality* oil . . . yet it sells at a price most motorists are willing to pay. That's the combination that gets *volume* sales!

PHILLIPS PETROLEUM CO., *Bartlesville, Okla.*

IT'S PHILLIPS FINEST QUALITY

Tank Cars Carry 933,966 b/d to East Coast



NPN News Bureau

WASHINGTON — Rail hauls of crude and products to the East Coast hunched nearer the million barrel mark during week ended April 10 totaling 948,808 b/d, PAW announced April 15. This total was broken down into 924,079 b/d by tank car and 24,729 b/d by box cars hauling kerosine in drums. During the previous week, 933,966 b/d traveled East by tank car and box car.

Total of 41 participating oil companies loaded 29,809 tank cars as follows:

Company	Cars	Company	Cars	Company	Cars
Allied	10	Elk Refining	49	Royal	57
American Bitumuls	56	**Company**	**Cars**	Shell	1486
Amsco	368	Frontier Oil	71	Sinclair	2581
Arkansas Fuel Oil	71	Gulf	3429	Socony-Vacuum	3421
Ashland	143	Hartol	204	Southland	10
Asiatic	237	Hess, Inc.	1	S.O. California	8
Atlantic Refining	2456	Home Oil	85	S.O. Kentucky	96
Bell Oil & Gas	17	Pan American	1451	S.O. New Jersey	5494
James B. Berry Sons	6	Petrol Corp.	243	Sohio	57
Chalmette	28	Petroleum Heat & Power	123	Sun	2425
Cities Service	1330	Phillips	6	Talco	25
Conoco	265	Pioneer Asphalt	1	Texaco	1665
Crown Central	33	Pure	235	Tide Water	1389
Daugherty	1	Republic	48	"Miscellaneous"	125
		Roosevelt	1		

'Big Inch' Fills 1049 Tank Cars In Single Day, ODT Reports

NPN News Bureau

WASHINGTON—The "big inch" line—primary cause of eastern tank car shipments of more than 900,000 b/d for the last two weeks—fed nearly 10,000,000 gal. of crude oil into 1049 tank cars for shipment eastward on April 15.

Until then, the Norris City terminal had been dispatching about 700 cars daily.

The newest report on Norris City tank car operations came from ODT on April 16.

Norris City is supplied by a pool of 10,000 tank cars, ODT said, with average capacity of about 9249 gal., but larger cars are sought and ODT expects to bring average capacity to 10,000 gal.

Where Crude Goes

The crude is distributed in this fashion, according to ODT: 60% goes to Philadelphia refineries, 34% to New York-Jersey City plants, and 6% to New England.

"Easily the largest tank car movement from any loading point in the Nation, and probably the largest in the world," ODT added, "the dispatching of an average of nearly 1100 cars a day out of Norris City on a single track over which formerly moved only 4 or 5 trains a day will require the utmost efficiency and caution on the part of crews. To achieve that goal, train crews must move a 75 car train in and out of the terminal every 52 minutes."

Dockets on Panhandle Pipeline To Be Heard April 20-22

NPN News Bureau

WASHINGTON—The Federal Power Commission has set three days, April 20-22 inclusive, for hearing at its office here dockets involving Panhandle Eastern Pipeline Co.

Hearing April 20, Dockets Nos. G-410, G-452, G-455, and G-459, will be on Panhandle's applications for certificates of convenience and necessity to construct a number of lateral and loop lines and for amendment of the Commission's order concerning sale of gas by Panhandle to the East Ohio Gas Co. Petitions to intervene filed by National Coal Co.

Hearing April 21, Docket G-458, will be on East Ohio Gas Co.'s application for certificate of convenience and necessity covering proposed 120-mile pipeline from Panhandle's facilities at Maumee, O., to East Ohio's facilities in Summit County.

Hearing April 22, Docket G-432, on rate disagreement between Panhandle and Ohio Fuel Gas Co.

Rate Hike Killed

Rails' 6% Increase Wiped Out by ICC. Lower Rates to be Effective May 15

NPN News Bureau

WASHINGTON—The 6% increase in rail freight rates on petroleum products, which marketers have been absorbing since it was imposed on March 18, 1942, will come off on May 15 and remain suspended at least for the balance of 1943 by ICC order.

OPA fought the rate increase last year, then petitioned for its suspension. But in the meanwhile OPA refused to allow oil marketers to pass along the increase to the consumer.

The decision is *not* retroactive so strippers cannot collect refunds on the 6% paid since March 18, 1942, an ICC examiner told NPN.

This freight increase, which applied to other commodities, too, was suspended by a 6-to-5 vote of the ICC on April 6 but not announced until later. The Commission was split evenly on the issue and had to call in Joseph Eastman, who is practically on leave of absence from ICC while he serves as ODT director, as he puts it. Mr. Eastman cast the deciding vote in favor of suspension. He said he had not studied the case until told that his vote was needed. Mr. Eastman's statement on the decision said, in part:

"The increase in revenues resulting from tremendous upsurge of traffic, both freight and passenger, alone and unaided by any increase in rates, has been far more than sufficient to compensate for such increases in wages, prices and other expenses as have occurred."

Dicker for Trans-Florida Line

NPN News Bureau

WASHINGTON—Engineers for Southeastern Pipe Line Co. are inspecting the Trans-Florida pipeline preparatory to discussing with Defense Plant Corp. a proposal that Southeastern take over operation of the line, according to a PAW spokesman.

Southeastern Pipe Line is jointly owned by Pure Oil Co. and Gulf Oil Corp. Trans-Florida line was originally scheduled to start operating in February but ran into difficulties.

Pipeline Preferences Revoked

NPN News Bureau

WASHINGTON—Preference ratings granted to Amerada Petroleum Co., Tulsa, for construction of a crude oil pipeline were revoked April 13 by WPB, because, WPB said, other facilities now being constructed will accomplish the same results and a new line is not needed. Project was to have cost $45,654.

Reports on Trailer Allocations

NPN News Bureau

WASHINGTON—Fifty-three per cent of the 6630 trailers allocated for civilian use from the pool of trucks in first year of allocation went to for-hire carriers, many of them petroleum carriers, ODT has announced.

There have been

93

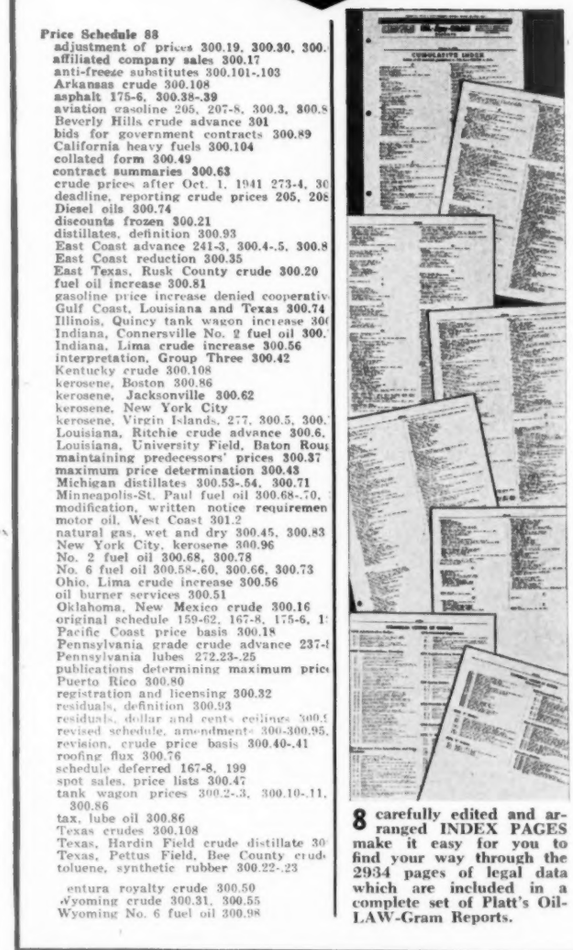
AMENDMENTS

to this one

PRICE ORDER

and they're still coming

FAST!



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You can't stay within the law— unless you know what the law is!

Every day in the week some one of the 23 different government agencies issues some sort of an order or directive that may have, sooner, or later, a decisive effect on the way you are doing business.

Price Order No. 88 is a case in point. Since this order was first released on February 2, 1942, 93 amendments—changes of mind—have issued forth from the nation's capitol.

Subscribers to our daily news bulletin service learned of these changes in brief the next morning, bright and early. They knew the gist of what had happened.

Those who got the full text in Platt's Oil-LAW-Gram knew almost immediately exactly how the order read and were able quickly to familiarize themselves and their organizations with the precise terms of the order. They did not have to guess or suppose. They knew—for sure!

Oil-LAW-Gram brings you the word-for-word text of every government order that affects oil. These texts go forward to you promptly as soon as the order is released in Washington.

We invite you to try this service for a full week at our expense. If, at the end of that time you do not think it is worth many times its cost, you have incurred no obligation whatsoever. Mail the coupon today. You will be glad you did.

OIL-*Law*-GRAM REPORTS

2934 pages of Oil-LAW-Gram reports have come off the press since May 28, 1941, when the President issued his executive order establishing the OPC.

1032 issues of the Oil-LAW-Gram containing from one to thirty pages were required to report the word-for-word text of this huge mass of material.

266 orders—PLUS—amendments, interpretations, instructions, clarifications and reports of policy—covering all the various phases of producing, refining, transportation and distribution of petroleum products, have been issued by the twenty-three governmental agencies having jurisdiction over the industry to date, and the tide of legal restrictions and limitations keeps rising higher every day.

Platt's **Oil-Law-Gram** Reports 42143
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WAR-OIL COMMUNICATION SERVICES

Evolution of Transportation Under War Stress

Ohio Standard Executive Traces Change from Tanker to Other Methods of Hauling Petroleum to East; Discusses Economics of Big Pipelines, Solid Trainloads of Tank Cars and Trucks in Competition with Tankers

Trainload movement of tank cars has greatly increased railroads' speed in hauling oil. Substitution of trucks for short hauls has relieved many tank cars for east coast service. The accompanying paper asks what position of rails and tank car companies will be after the war. Will trucks continue to hold short haul business? Will large pipelines offer too much competition? Or will rails be able to haul oil at competitive rates because of experience gained under wartime stress?

CLEVELAND — Changes in oil transportation brought about by the war were discussed by Sidney A. Swensrud, Cleveland, vice-president of Standard Oil Co. of Ohio, at the 1943 meeting of the American Institute of Mining and Metallurgical Engineers, petroleum economics section, in New York City Feb. 18, 1943.

Mr. Swensrud spoke at the meeting from notes, but subsequently wrote them up into manuscript form which NPN prints herewith.

In the paper Mr. Swensrud traced transition of oil transportation from predominately a tanker proposition before the war to the present day system of large pipelines, trainload movement of tank cars, and replacement of short rail hauls by tank trucks.

Following is the complete text of Mr. Swensrud's paper:

By Sidney A. Swensrud*

The tremendous importance of petroleum transportation, not only within the oil industry, but to the entire activities of the Nation in peace and in war probably has not heretofore been fully understood or appreciated. This was particularly true, we believe, because in the working out of its highly developed integrated structure the oil industry had created a specialized transportation system all of its own, having relatively little relation to ordinary transportation media. Few people realized that our country was underlaid with several hundred thousand miles of pipe lines. Few knew that the largest merchant fleet in the world consisted of the tankers of a U. S. oil company, or that in the field of trucking a majority of the largest fleets in the U. S. were those of oil companies, or again that the oil industry was one of the largest users not only of our inland river systems, but of the Great Lakes as well.

These comparisons serve to explain why when something suddenly interferes with the operation of this ordinarily smooth running, inconspicuous transportation system, the repercussions produce a host of extremely complicated problems, and it brings home to a large proportion of the population the importance which the use of petroleum products have attained in our every day lives.

The *wartime* importance of petroleum transportation is too well known to need elaboration here. Such importance has been rather dramatically summed up in a statement that petroleum products, including bunkering oil, constituted more than two-thirds of the total cargo, that accompanied the recent expeditionary force to Africa. When we consider that practically every moving piece of military equipment, whether ships, trucks, tanks or airplanes are propelled and lubricated by petroleum products and that the chief ingredient of high-powered explosives—Toluene—also comes largely from the oil industry, and when we consider the far-flung, worldwide nature of the present conflict and the limited areas of supply, we can realize how stupendous is the task of transporting these requirements to the various theaters of war.

As for its importance within the industry, transportation of crude oil and of products appears to account for about 20 to 25% of the total revenue which the industry, including marketing, finally receives from the public for its products. Thus transportation, which is one of the four great divisions of the industry—that is, production, refining, transportation and marketing—is about equal, as measured by the share of revenue it receives, to the average importance of the other three branches.

Historic Review

Before we come to a discussion of present day problems, it will be well to review very briefly the historic development of transportation in the oil industry, and the way in which this development has influenced or been influenced by other factors.

At a very early date in the industry's history, pipelines came to be used for transporting *crude oil*, and until crude oil production moved down toward the Gulf Coast, pipe lines were the only important form of crude transportation. Tank car movement of crude, from very early in the development of the industry, ceased to be used except as a temporary method of transportation, as in the early stages of new fields or for movement of small quantities of special quality crudes.

When, however, crude production reached the Gulf Coast area, tanker transportation became the predominant method of moving crude oil or its products from that area to the Atlantic Seaboard, and now that the new "Big Inch" pipeline appears to challenge even the peacetime economics of the tanker movement, it is interesting to consider why the tanker movement originally displaced the pipeline movement. We may say that a crude oil line of such large diameter is a new development, but for years we have had large diameter gas lines, largely built by oil company subsidiaries,

*Vice President, Standard Oil Company (Ohio). Presented before the February 18, 1943 meeting of the American Institute of Mining and Metallurgical Engineers, Petroleum Economics Section, New York City.

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and probably there is no particularly physical reason why large diameter *crude* lines could not have been built many years ago.

Undoubtedly the answer lies largely in the fact that no one company on the Atlantic Seaboard has ever run enough domestic crude to enable it by itself to use the volume of crude necessary to make efficient use of a crude line of large enough diameter to compete with tankers. In the case of tankers, however, except for the advantages of organization and the spreading of overhead over a larger volume, the maximum economy can be achieved by anyone who has enough volume to keep one large tanker busy, and that requires only around 10,000 bbls. a day from the Gulf to the Atlantic Seaboard, whereas to make the most efficient use of even a moderately large diameter pipeline, of say 16 in., would necessitate a use for 100,000 to 150,000 b/d.

Probably another factor was the fact that the pipeline rate structure grew up on the basis of relatively small diameter lines and the thinking, therefore, as to pipeline rates and costs has been influenced by this habit of considering pipeline rates in terms of these historic relationships, whereas in the case of tankers, tariffs have not been required and there was no impediment to thinking entirely in terms of costs rather than tariff rates.

Tankers Allow Separation of Crude

Another factor, however, was the fact that through the use of tankers the crude could be separated into its component products at the Gulf Coast. This had several advantages. Refining costs tend to be a little lower on the Gulf Coast than the Atlantic Seaboard (primarily because of lower fuel costs). In addition, when refining is done at the source the refining loss need not be shipped at all. These advantages depend in part upon having outbound tanker transportation available, for it is not possible to move all of the products by pipeline. Heavy fuel oil, for example, cannot be shipped through a pipeline but can be transported in a tanker. These factors doubtless will continue to favor the combination of refining on the Gulf Coast, plus tanker transportation of at least a part of the products to the East Coast or elsewhere, but there is nothing about this which prevents the movement of the lighter products by pipeline.

As to why pipelines and tankers displaced rail transportation, we shall have occasion to discuss this further, but we may say here that we believe it was not entirely because of fundamentally higher costs of rail transportation, but as much because of the rigidity of rate and cost accounting concepts in railroading and the fact that in deciding between rail, tanker and pipeline transportation, an oil company, so far as rail transportation is concerned, can only consider the tariff rates available and not the basic costs.

In the field of *product transportation,* the railroads had almost a complete monopoly until about 15 years ago, except for the final local delivery made by tank wagon or tank truck and except for the tanker deliveries from the Gulf Coast to the East Coast. After that, transport trucks, and later product pipelines began to displace the rail movements.

Here again it is the writer's opinion that the railroads lost most of this business because of a failure to conceive the true nature of the problem and the reality of the competition, and to consider the costs of *losing* the business as well as figuring the costs of handling it in accordance with typical cost accounting calculations, which are heavily burdened with fixed charges.

Along with this was the failure or perhaps we should say the impracticability of the joint parties involved—that is, the railroads, the tank car owners and the shippers—giving to the question of how the traffic in a particular case could be handled most efficiently, the same consideration as a single oil company would give to the handling of one of its own transportation problems through its own facilities; and even if this could be done, there would still be the problem of setting up a rail rate in the particular case which would give recognition to the working out of such efficiencies.

To digress a moment on this point, it can well be imagined what pipeline or truck costs would be if movement through these facilities were handled in the same fashion as are movements in ordinary times by tank car—that is, no effort made to speed up the turn-around time by attention and time study of every aspect of loading, moving and unloading, and no effort made to increase the size of the container as a means of lowering costs.

In our own company's operation of transport trucks, we aim to keep them in active operating service about 20 out of 24 hours. In the case of trucks, much study is given to speeding up loading and unloading operations through more rapid pumping, larger delivery pipes and better scheduling, etc., etc. But in pre-war days very little consideration was ever given such details in the case of movement by tank car. The point is that in the case of truck or pipelines we could deal with these problems because they were within our single control, whereas in the case of railroad transportation this was not possible, and in addition to the three parties above-mentioned—that is, the railroad, the tank car owner and the shipper—there was the Inter-State Commerce Commission. These, in the writer's opinion, have been the factors that have caused the substitution of other methods of transportation for rail movements rather than, or certainly as well as, any marked advantage of the other methods over rail, so far as the fundamental costs of material, man hours, and horsepower are concerned.

Influence of Transportation Developments

It is interesting to note how the shifts from rail to pipeline, transport truck and barge transportation have affected the development of the refining and marketing ends of the industry. When product shipments were primarily by rail, a predominate feature thereof was the fact that large freight zones were created—referred to, for example, as Group 2 or Group 3—in which the rail rate for a shipment to a point outside the zone was the same from every point of origin within the zone—this regardless of the relative costs or distances which might be involved. Under these conditions there was no outbound rail transportation advantage in locating a refinery at one point as against another within the same zone, and the result, of course, was that small refineries tended to spring up wherever a crude field developed, since the nearer the crude field the less the inbound crude transportation cost. When, however, rail transportation began to be displaced by truck or pipeline transportation, and when, in consequence, delivered prices in the middlewest markets ceased to reflect fully the old "Group 3 price-plus-rail freight" basis, many of these isolated refineries became uneconomic.

Of course the larger refining companies had tended to give greater consideration to the fundamental aspects of transportation and to locate their refineries in the vicinity of the larger markets, for where there was a large enough volume involved it was generally cheaper to transport the crude oil a long distance by pipeline and the products a short distance by rail rather than vice versa.

The development of the *product pipelines* and the large consumption of heavy fuel oil by the western railroads has now in turn contributed to making the location of field refineries somewhat sounder, because now the light products can be shipped by pipeline, the heavy fuel oil can be sold to the local railroad and the refinery loss need not be shipped at all.

Just why the development of pipelines for shipping *products* as well as *crude* was so long delayed is an interesting question. Of course there was never as large a volume of any one

Transport trucks have substituted for tank cars on short hauls and are operating in many cases on a 20-hour schedule every day. They have released many tank cars for other service

Wartime use of tankers is largely limited to supplying the armed forces. Subs have taken their toll but before the war the largest merchant fleet in the world consisted of tankers owned by a U. S. oil company. After the war, predictions are that the U. S. will have the biggest tanker fleet in the world

refined product to be shipped by pipeline as there was of crude. However, in many cases there was a large enough volume, at least of gasoline, to warrant its delivery by pipeline long before product lines developed. There does not appear, either, to have been any sound engineering reason for the deferment, since eventually some of the oldest crude oil lines in the country were turned into gasoline lines.

Delay in Pipelines Explained

I think we must put the deferment down primarily to the fact that the larger units in the industry who had a volume sufficient for efficient pipelining had achieved their major saving by piping the crude oil to refineries located in the large marketing centers and therefore had achieved a sufficient advantage over the marginal competition to make it possible to ship the products out by rail and still have a comfortable margin. Also, on the Great Lakes, some deliveries from refineries to other large centers were made by tanker, and on some of the rivers by barge, and this solved a further part of the problem, although possibly not as economically as a sound products pipeline system would have solved it, especially as compared to tankers on the Great Lakes which are frozen up almost half the year, necessitating large terminals and extra inventories. It may be too that the fact that product price structures historically were based largely on rail rates, was a factor in postponing the development of product pipelines.

Whatever the reasons for the delay, the progress of product pipelines was very rapid once the ice was broken a dozen or so years ago, and the industry has now made great progress toward what we might call the "product plumbing system" of the industry.

Nothing could have been better calculated to change the development of marketing than these various shifts in the nature of product transportation. During the rail era there were two primary facilities in petroleum marketing —the bulk plant and the service station. The bulk plant received tank car deliveries for local distribution by tank wagon and later by tank truck. The early radius of this local delivery operation was small, and since the material had to come in by tank car anyway, the advantage lay in a great number and scatteration of bulk plants.

Deliveries were made from these bulk plants to retail stations, and there was, therefore, a very sharp distinction between the "tank car" price to the jobber operating a bulk plant and the "tank wagon" price to the dealer operating a retail station. The distinction was real; there was no escaping the transportation realities on which it rested.

The development, however, of transport truck, pipeline and water deliveries has now changed this whole scene. Transport trucks can haul long distances from refineries, but more than this the product pipelines and water routes have led to the creation of many pipeline and water terminals which have the same effect as if the refinery itself had been moved out toward its markets, in somewhat the same fashion as that of the general who got on his horse and rode off in all directions.

It may readily be seen that under these circumstances the old type bulk plant which had to exist for receiving tank car deliveries is destined to become and is becoming more and more obsolete. There is no need of shipping by tank car or by transport truck from a pipeline or water terminal to a local bulk plant if delivery can be made direct to the retail dealer or the consuming customer by a truck moving out of the pipeline or water terminal.

There still is a wholesaling function to be performed, in the solicitation and serving of retail dealers and consuming accounts, in the warehousing of case and barrel goods and the like, but there is an ever diminishing need of the old-fashioned bulk plant for the purpose of putting the major liquid products through it, and such business seems likely to dwindle down to that of serving the peddler type of small-size deliveries to farmers and other small consumers.

The war has greatly accelerated this development, especially in the areas where for one reason or another it had been somewhat held back by a tendency to continue uneconomic local tank car rail deliveries. The need of using these tank cars for long distance movements to the East has created a great pressure to eliminate them from all unnecessary local deliveries, and thus a trend, which was certain to have extended anyway, was accelerated by the war.

The result of these developments has been a marked change in retail marketing. The tendency of the larger, better located stations is to put in large enough tanks to receive transport deliveries in efficient quantities, and since this naturally reduces the cost of wholesaling so far as such station is concerned, the margin between the jobber price and the dealer price constantly tends to narrow. This, in turn, tends to make even more uneconomic the operation of the station whose premises or business are so small that direct deliveries in efficient volume cannot be made. As in all human institutions, customs tend to outlast the conditions which brought them about, and in the same way many of the small uneconomic retailers continued to stay on; up to the time of this war this undoubtedly was a fortunate circumstance, since it tended to mitigate the sufferings which often result from a sudden change. Here again, however, the war has tended to accelerate a development that was undoubtedly inevitable. War jobs have been more lucrative than the operation of a marginal service station, especially after its sales were further reduced by rationing.

Aspect of Integration as Cause and Effect

We cannot pass over these relationships between transportation and the development of the industry without commenting upon the interrelation between the integrated form of organization, which has characterized the industry, and its specialized forms of transportation, especially pipelines. These factors have, we believe, operated as mutual cause and effect. Had there been no tendency toward integration in the industry, and had its units never been large enough to make it possible for any one of them to consider building a fair sized pipeline for its own exclusive use, it may be doubted whether this method of transportation, except for local crude oil gathering, would ever have developed in any important way. But once pipeline transportation had begun to develop, the low incremental cost of pumping the extra unit through a pipeline undoubtedly had a vast influence on the development of the business. The company which was big enough to build a pipeline would usually start out with a somewhat larger capacity than it then needed, and thus in ordinary circumstances there would almost always be the possibility of putting through additional quantities, merely by adding some additional pumping facilities, going to a little higher pressures, or, when these

methods had been exhausted, building intermediate stations or "looping" the line.

The extra cost of handling extra oil on this basis was relatively small, and coupled with the fact that where extra refining capacity exists a similar low incremental cost factor operates, it can readily be seen that an integrated company could manufacture additional products at a cost which would ordinarily leave a sufficiently satisfactory margin to stimulate the efforts toward further expansion even if some price concessions had to be made.

What we used to hear so much about, therefore, as crude oil pressing on the market, probably was not solely the pressure to produce the extra crude oil, but this, plus the opportunities to make additional profit from the low incremental cost factors involved in transportation and refining. Contrast this with the much greater incremental cost that would be applicable to an extra barrel shipped via tank car or via a pipeline owned by an outside company, in which case the extra barrel would carry the same cost to the shipper as the first barrel shipped.

The combination of low incremental cost and company ownership of pipelines probably must, therefore, be concluded to have been one of the primary forces prompting the high degree of integration in the oil industry. Such integration, in turn, made it possible for the pipelines to be built, and thus integration has, in fact, contributed very greatly to economical transportation in the industry, most of the benefits of which, in the form of lower prices, have been passed on to the consumer.

Wartime Problems

The displacement of rail movements of petroleum products by less expensive pipeline and tanker movements in the years past, in addition to providing cheaper transportation, turned out to have been a national blessing for another reason as well, for it resulted in there being on hand an extra, unused, or only partially used, form of transportation which could be impressed into service as an emergency measure. It is interesting now to look back at the controversy which raged in 1941 as to whether or not there were 20,000 tank cars available in the U. S. which could be put into long distance tanker substitution service. It will be recalled that most of the authorities in the Petroleum Coordinator's office, including some of very high rank, took violent exception to the idea that there was any such number of tank cars available. That they were slightly in error is attested by the fact that at present there is somewhere between 70,000 and 80,000 tank cars in this service! Nothing could better illustrate the importance of a proper concept of a problem.

Those of us who had spent many years working on the substitution of other methods for expensive rail deliveries had little doubt that the great majority of tank cars, in fact, could be freed for such service merely by carrying the substitution of non-rail methods of local delivery a good deal farther, and if necessary for this purpose, building some additional trucks, inasmuch as even a small truck will frequently displace 10 to 20 tank cars. A tank car in a local short distance movement is almost unbelievably inefficient in terms of the barrel miles of transportation accomplished per tank car per day, this because of the disproportionate amount of idle time during which the tank car is being switched around or left standing in yards awaiting the arrival of trains, etc. And, of course, the recipients of tank cars had gotten into the habit (entirely justified when there was a surplus of tank cars) of unloading them pretty much at their leisure, since they were ordinarily allowed 48 hours or more of free time after the arrival of the car in which to get it unloaded.

The difficulty of getting people to change their concepts of such matters is well illustrated by the disproportionate emphasis which was placed for a long time on the "time under load," factor, that is, the time elapsing between the time the loaded car was taken from the loading rack and the time when it was delivered to the destination. But, of course, from a standpoint of maximum deliveries over a period, the time spent in moving the loaded car was not one iota more important than the time spent loading and unloading and in returning the empty car.

Another concept which it has been difficult to inculcate was that since the tank cars were being substituted for tanker hauls they could be most efficiently used if arrangements were made to load them and unload them in train load lots, just as a tanker would receive a quantity (equivalent in fact to many train loads) from one terminal and deliver it as promptly as possible to another terminal. Instead of this, the tendency was, and still is to some extent, to disperse the cars when they arrive near the destination and use them to make a great many small local deliveries to individual customers and bulk plants, thereby merely doing with the precious tank car what could have been or could be done several times more efficiently with a local truck, even though there would, of course, be some extra cost attaching to subsequent truck delivery, but from the standpoint of maximum utilization of tank cars there could be no question whatever of the efficiency of unloading the train load as a unit and getting the empty cars started back promptly and as a unit.

On the whole, of course, the oil companies and the railroads have done a creditable job in making tank cars available from local services and getting the deliveries to the East up to the figures that have been reached. But it is believed that such deliveries could be still further increased with the same number of cars if we thought more in terms of trains rather than tank cars, and if we handled the trains as nearly as possible in the same way that tankers would be handled if they were available.

Other Projects

The use of tank cars is but one (although by far the most important) of several means of increasing non-ocean-tanker deliveries to the East Coast.

The most important other project is the new 24-inch pipeline from East Texas, the first part of which, ending at Norris City, Ill., is just being completed, with an extension to the East Coast under construction.

Three gasoline lines, formerly running from the East Coast to the Ohio River Valley area, have been reversed and are now carrying crude oil or products eastward instead of westward, and to facilitate these eastward movements certain connecting links have been built and other previously existing links enlarged, so as to make it possible to bring to the head of the reversed pipelines enough volume to keep them operating at full capacity.

Several other pipeline projects have been built out of used pipe, including a 12-in. line from Beaumont, Tex., to Baton Rouge, La., to supplement or take the place of barge deliveries via the Intercoastal Canal in order to make available additional quantities at Baton Rouge to feed the eastbound Plantation products line, running eastward through the southern tier of states. The Plantation line, which was originally built in 1941 as far as Greensboro, N. C., was extended on to Richmond, Va., in 1942, and its capacity increased to handle the extra movements.

Another line was built out of used pipe from Eldorado, Ark., to Helena, Ark., on the Mississippi River, and certain crude oil lines for-

The "Big-Inch" pipeline is the largest ever built. It was constructed to relieve the East Coast and will be supplemented with a 20-in. products line for the same purpose. Whether the government will continue to own them after the war and whether they can compete with other methods of transportation remains a postwar question

merly running south from Eldorado to or toward Texas were reversed and converted to product deliveries in such a way as to make it possible to get enough refined products to the head of the Eldorado-Helena line to keep it operating at capacity.

Still another used pipe project is a line across the northern part of Florida, which makes it possible to take gasoline delivered to the West coast of Florida by barge or tanker and deliver it to east coast of Florida without having to circumnavigate the whole peninsula.

Lake Movement Improved

Successful programs also were developed to increase the usefulness of Great Lakes tanker facilities by rearranging deliveries, through exchanges, improvement of loading and unloading facilities and other measures, so as to eliminate cross hauls and maximize eastbound deliveries. Some new bargaining and towing equipment has been built, and a substantial number of dry-cargo barges have been converted to oil carriers.

Now being proposed is another large diameter (20-in.) new pipeline to run either (a) from the Beaumont, Tex., refining area up to a point in Indiana, or (b) from a middlewest point on to the East, and in either event the other leg might later be built so as to make another large diameter through-line from Texas to the East. Some controversy has developed as to which leg of this line should be built first, and the matter has attracted the attention of one of the committees of the U. S. Senate†.

One of the problems which frequently arises in consideration of transportation problems is the fact that crude oil production in the middlewest and Mid-Continent areas, especially in Illinois and Oklahoma, is tending to decline and this means that on the average crude oil will have to be brought from more distant sources for use in the interior refineries, generally referred to in the War Administration as District No. 2. At some point, therefore, it seems probable that additional crude oil pipeline capacity from Texas into Oklahoma will be found essential. There are great reserves of crude oil in West Texas, and additional pipeline capacity for moving crude oil from that area into Oklahoma probably would be found to be desirable means of increasing crude oil availability in District No. 2 in such a way as to insure the continued full use of pipeline transportation capacity from Oklahoma northeast, and to assure the necessary quantity of crude oil required by the refineries in the interior area. The preoccupation of most of the Government authorities with the solution of the East Coast shortage problem, and the fact that thus far it has been possible to draw on previously accumulated crude oil stocks in District No. 2 sufficiently to offset production declines, has postponed attention being given to this problem, but such stock reductions obviously are a negative type of solution, and it would seem that in the near future the problem will have to be dealt with in an affirmative manner by providing pipeline means of bringing additional crude oil into District No. 2 for use therein.

Wartime Operating Problems

Operating problems under today's conditions can be epitomized by saying that operations are being conducted at as nearly 100% capacity as possible (in many instances at reduced safety factors) which being limited and hindered by lack of materials, inferior substitute materials, reduced manpower and increasing inefficiencies of labor.

Considering these factors in their order, it is impossible in many cases to obtain first-class material, and even substitute or used material involves delays and obstructs repair or construction schedules. In one pipeline project recently completed it is safe to say that a month's time and several million ton miles of transportation were lost because of inability to obtain on schedule the used materials which were designated for the job.

Up to the present the shortage in manpower has been felt mostly in engineering and supervisory jobs, with the result that many men occupying these jobs are reaching the limit of time which they can apply to their work. Government regulations and reports contribute not a little to this problem. Within the last six months there has been a noticeable decline in the efficiency of labor evidenced by careless work and by the tendency of men to leave jobs for no particular reason except pehaps a feeling of independence. It is not unreasonable to look forward to the time when existing transportation facilities will deliver less ton miles as a result of these factors.

Exchanges and Joint Use of Facilities

We are today hearing a good deal about exchanges and joint use of facilities. In the prewar days, the industry was greatly criticized for making gasoline exchanges, as though there were something reprehensible about one company getting gasoline from another company's refinery or terminal. The true importance of those exchanges is now being recognized and instead of the Government objecting, it is now urging or ordering the making of such exchanges wherever possible. The fact is, of course, that the exchanges were always a method of minimizing transportation, and in past times the public benefited through the lower prices resulting from decreased costs, just as today the country is benefited by the greater utilization of transportation facilities which is possible through exchanges.

The joint use of facilities which is being discussed at length is simply a further application of the exchange idea, for exchanges themselves are in effect joint use of facilities. There is, of course, a considerable difference between arrangements voluntarily worked out, where the pressure is lowering of costs, as contrasted with arrangements made pursuant to an arbitrary plan which theoretically might appear to be well-nigh perfect, but which might go so far as to substantially qualify the fundamental competitive nature of the business. The standard, of course, must be wartime efficiency. But probably a general observation may be made that the theoretical efficiency of any plan which deviates widely from current practice and requires a good deal of administrative procedure to carry it out must be subject to a substantial discount factor, and this is especially true if, in addition to burdensome administrative problems and costs, the changes involved appear to be in the direction of permanent socialization. Probably it is actually more efficient to get 70 or 80% of the theoretically possible accomplishment, by some plan which leaves as much of its application as possible to individual operators to work out, with ample following up, analysis and reporting of progress by the industry committee or government agency concerned.

We are now beginning to hear more and more about dealing with the postwar problems which will have arisen out of the war. A great many such problems can be posed so far as petroleum transportation is concerned, for in petroleum transportation, as in refining, large new facilities will have been created as a result of the war, and the use of these after the war undoubtedly will have a very great influence upon the course of the industry's development.

Can or will the "Big Inch" pipeline (or lines), for example, continue to haul crude oil or products all the way to the East Coast after the war in competition with tankers? Will these lines continue to be owned by the Government or will they be sold to oil companies? In either case, would it not be necessary, in order for them to compete with tankers, for their *tariff rates* as well as their *costs* to be in line with tanker costs? If, however, the rates were reduced to such a level, would deliveries be made to intermediate points at proportionate rates, and if so what would be the effect upon existing pipelines and refineries?

What will be done with all the bargain equipment that is constructed or reconstructed during the war? Will there be enough of the kind of traffic which barges, as contrasted with other methods of transportation, can handle efficiently to keep this long-lived equipment in service? Or will many of the oil barges be converted after the war to the handling of other commodities for which pipeline transportation is not available and where the principal competition is from the rails?

Paints Postwar Rail Picture

What will be the rail picture after the war? Will the railroads, having discovered, if they have discovered, that they might be able to handle well-organized large volume petroleum movements at low cost, make a bid for holding this business after the war and get their rates down to a point where they could compete with pipelines or water movements? (If we were to make one prediction it would be that this will not occur, since it would involve a greater change in the rate making concepts of the railroads and the Interstate Commerce Commission than seems likely to occur.)

What will be the fate of the tank car companies after the war? Will they regain enough of the local business to provide fair use for the good cars left after the war, or will there be enough increase in tank car movements of other liquids to fill the gap?

What will be the influence of all the new transportation facilities upon refinery operations and locations, and upon marketing developments? What, indeed, will be the industry's total volume of petroleum and its products to be moved after the war? How rapidly will the automotive "population" be rebuilt? Will crude oil prices remain low enough to keep petroleum fuel oils competitive with coal and other fuels? What will the export requirements be in the reconstruction period?

These are some of the questions and problems that the industry will be facing after the war. It would be futile in such a paper as this to do more than merely mention them, but it is apparent that they will require the best efforts of the industry for their solution—we may venture to suggest that the difficulty involved in dealing with them will probably be in about inverse proportion to the growth factor of the industry in the postwar period, as influenced by the general economic and industrial situation.

†United States Senate Special Committee to Investigate the National Defense Program.

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COMING MEETINGS

APRIL

The American Society of Mechanical Engineers, Hotel Blackhawk, Davenport, Iowa, Fri.-Sun., April 26-27-28.

American Petroleum Institute, Division of Production, Rice Hotel, Houston, Texas, Thurs.-Fri., April 29-30.

MAY

Petroleum Industry Electrical Assn., Rice Hotel, Houston, Texas, Wed.-Thurs., May 5-6.

Society of Automotive Engineers, Transportation and Maintenance, Pennsylvania Hotel, New York City, Wed.-Thurs., May 5-6.

American Institute of Mining and Metallurgical Engineers, Petroleum Division, Baker Hotel, Dallas, Tex., Thurs., Fri., Sat., May 6, 7, 8, 1943.

Independent Petroleum Assn. of America, Jefferson Hotel, St. Louis, Mo., Fri.-Sat., May 7-8.

National Fire Protection Assn., Palmer House, Chicago, Ill., Mon.-Sat., May 10-11-12-13-14-15.

American Mining Congress, Coal Mine War Conference, Netherland Plaza Hotel, Cincinnati, Ohio, Mon.-Tues., May 17-18.

American Petroleum Institute, Mayo Hotel, Tulsa, Okla., Thurs.-Fri., May 20-21.

JUNE

Society of Automotive Engineers, Diesel Engine and Fuels, Carter Hotel, Cleveland, Ohio, Wed.-Thurs., June 2-3.

The American Society of Mechanical Engineers, Hotel Biltmore, Los Angeles, Calif., Mon.-Wed., June 14-15-16.

American Society for Testing Materials, William Penn Hotel, Pittsburgh, Pa., Mon.-Thurs., June 28-July 1.

OCTOBER

West Virginia Petroleum Assn., Annual Convention Daniel Boone Hotel, Charleston, W. Va., Wed., Oct. 13.

Petroleum Division, National Assn. of Credit Men, St. Louis, Mo., Mon.-Wed., Oct. 25-26-27.

NOVEMBER

The American Society of Mechanical Engineers, New York, Mon.-Fri., Nov. 29-30, Dec. 1-2-3.

Ohio Petroleum Marketers Assn. Inc., Annual Meeting, Hotel Deshler-Wallick, Columbus, O., Wed.-Thurs., Nov. 3-4, 1943.

DECEMBER

New Mexico Oil & Gas Ass'n., Artesia Hotel, Artesia, New Mexico, Wed., Dec. 1.

Nebraska Petroleum Marketers, Inc., Fontenelle Hotel, Omaha, Tues.-Thurs., Dec. 7-8-9.

TRADEMARKS

The following are trademark applications pertinent to our field pending in the United States Patent Office which have been passed for publication and are in line for early registration unless opposition is filed promptly. For further information address National Trade-Mark Company, Munsey Building, Washington, D. C., trademark specialists.

NATIONAL EN-AR-CO —C1 Ser. 449,775, The National Refining Co., Cleveland, Ohio. For lubricating oil. Published Mar. 23, 1943.

ISOVERSION on a shield, Ser. 457,745, Phillips Petroleum Co., Bartlesville, Okla. For gasoline. Published Mar. 23, 1943.

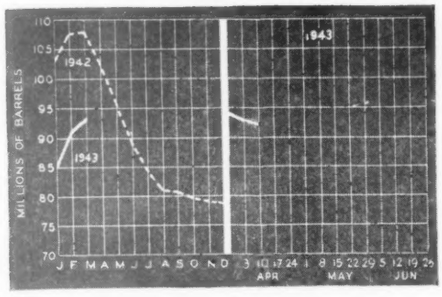
COLONIAL, Ser. 458,009, Colonial Beacon Oil Co., Boston, Mass. For refined, semi-refined and unrefined oils made from petroleum, both with and without admixture of animal, vegetable or mineral oils, for illuminating, burning, power, fuel, and lubricating purposes, and for lubricating greases. Published Mar. 23, 1943.

PARFAX, Ser. 456,889, Geo. F. Hutter, Buffalo, N. Y. For petroleum solvent in form of a petroleum chemical compound for removing rust, gummy deposits, and a gasoline additive and booster, for use in lubricating oil in the engine crank case. Published Mar. 23, 1943.

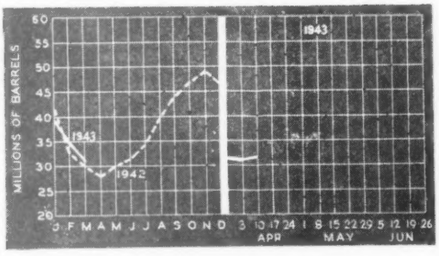
STATISTICS

Monthly figures are actual as reported by Bureau of Mines. Weekly figures are as estimated by American Petroleum Institute on Bureau of Mines basis, except crude stocks which are as reported by Bureau of Mines.

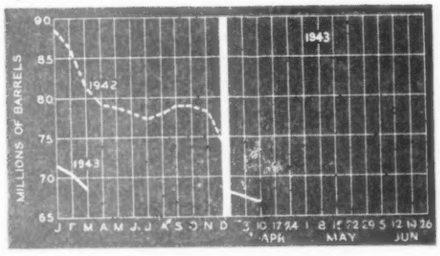
Gasoline Stocks (Finished and Unfinished)



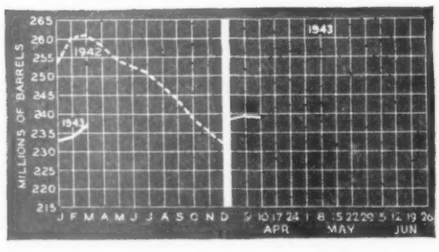
Gas Oil and Distillate Stocks



Residual Fuel Oil Stocks



Crude Stocks



Refinery Operations

(American Petroleum Institute figures in thousands of barrels of 42 gallons each. Figures include reported totals plus an estimate of unreported amounts and are therefore on a Bureau of Mines basis.)

Districts	Daily Potential Refining Capacity Week Ended Apr. 10	Daily Potential Refining Capacity Week Ended Apr. 3	Per Cent of Refining Capacity Reporting Week Ended Apr. 10	Per Cent of Refining Capacity Reporting Week Ended Apr. 3	Daily Average Crude Runs to Stills Week Ended Apr. 10	Daily Average Crude Runs to Stills Week Ended Apr. 3	Per Cent of Reporting Capacity Operated Week Ended Apr. 10	Per Cent of Reporting Capacity Operated Week Ended Apr. 3
Combined°°	2,444	2,444	88.7	88.7	1,683	1,709	68.9	69.9
Appalachian	177	177	84.8	84.8	155	157	87.6	88.7
Ind., Ill., Ky.	811	811	85.0	85.0	690	657	85.1	81.0
Okla., Kans., Mo.	416	416	80.1	80.1	329	313	79.1	75.2
Rocky Mt.	147	147	48.0	48.0	95	81	64.6	55.1
California	817	817	89.9	89.9	725	707	88.7	86.5
Total U. S.—B. of M. Basis	4,812	4,812	86.2	86.2	3,677	3,624	76.4	75.3
U. S.—B. of M. Basis, Apr. 11, 1942					3,502			

Districts	Gasoline Production at Refineries inc. Natural Blended Week Ended Apr. 10	Gasoline Production at Refineries inc. Natural Blended Week Ended Apr. 3	Stocks of Finished and Unfinished Gasoline Week Ended Apr. 10	Stocks of Finished and Unfinished Gasoline Week Ended Apr. 3	Total Stocks Gas Oil & Distillates Week Ended Apr. 10	Total Stocks Gas Oil & Distillates Week Ended Apr. 3	Total Stocks Residual Fuel Oil Week Ended Apr. 10	Total Stocks Residual Fuel Oil Week Ended Apr. 3
Combined°°	4,682	4,776	40,483	40,343	13,690	14,033	10,161	10,170
Appalachian	409	442	2,468	2,547	905	848	457	459
Ind., Ill., Ky.	2,045	2,102	20,073	20,483	3,336	3,063	2,275	2,328
Okla., Kans., Mo.	1,007	1,078	7,254	7,408	1,614	1,614	1,341	1,352
Rocky Mt.	296	260	2,051	2,036	346	346	480	528
California	1,743	1,703	20,883	20,592	11,015	10,828	52,471	52,646
Total U. S.—B. of M. Basis	10,182	10,361	93,212°	93,409	30,906	30,732	67,185	67,483
U. S.—B. of M. Basis Apr. 11, 1942	10,718		105,566		29,567		81,947	

°Finished 82,960,000 bbl.; Unfinished 10,252,000 bbl.
°°Includes East Coast, Inland Texas, Texas Gulf, Louisiana Gulf, and North Louisiana-Arkansas districts.

Crude Oil Stocks

(Bureau of Mines Figures in thousands of barrels)

Grade or Origin	Apr. 3	Apr. 10	Change from Apr. 3
Pennsylvania Grade	2,760	2,763	+ 3
Other Appalachian	1,413	1,429	+ 16
Lima-Michigan	971	1,035	+ 64
Illinois-Indiana	11,041	11,417	+376
Arkansas	2,333	2,322	— 11
Kansas	8,854	8,737	—117
Louisiana:	13,601	14,020	+419
Northern	4,561	4,438	—123
Gulf Coast	9,040	9,582	+542
Mississippi	1,205	1,232	+ 27
New Mexico	7,085	6,974	—111
Oklahoma	37,244	37,837	+593
Texas:	105,193	104,121	—1,072
East Texas	24,482	23,589	—893
West Texas	23,905	23,998	+ 93
Gulf Texas	29,763	29,633	—130
Other Texas	27,043	26,901	—142
Panhandle	5,377	5,327	— 50
North	7,440	7,466	+ 26
South	4,620	4,565	— 55
Other	9,606	9,543	— 63
Rocky Mountain	13,772	13,760	— 12
California	34,217	34,200	— 17
Foreign	175	78	— 97
Total gasoline-bearing in U. S.	239,864	239,925	+ 61
Heavy in California	10,422	10,576	+154

N.P.N. Gasoline Index

	Dealer T.W.	Tank Car
	Cents Per Gal.	
April 19	10.57	6.69
Month ago	10.57	6.46
Year ago	10.34	6.50

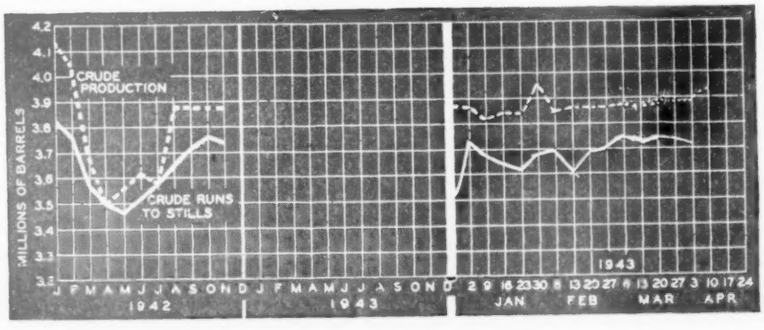
Dealer index is an average of "undivided" dealer prices, ex-tax, in 50 cities.

Tank car index is weighted average of following wholesale markets for regular-grade gasoline, FOB refineries or terminals: Okla., Mid-Western, W. Penna., Calif., N. Y. Harbor, Philadelphia, Jacksonville, Boston and Gulf Coast.

Pennsylvania Crude Runs

(Compiled by National Petroleum Assn. from reports of all companies which refined Pennsylvania crude. Figures in barrels.)

Week Ended	Daily Average	Week Ended	Daily Average
Jan. 2	75,279	Mar. 6	70,389
Jan. 9	70,842	Mar. 13	73,184
Jan. 16	78,155	Mar. 20	77,828
Jan. 23	77,551	Mar. 27	82,224
Jan. 30	74,034	Apr. 3	81,095
Feb. 6	67,494	Apr. 10	74,317
Feb. 13	69,103	1942 Low	67,243
Feb. 20	78,797	1942 High	87,251
Feb. 27	77,285		

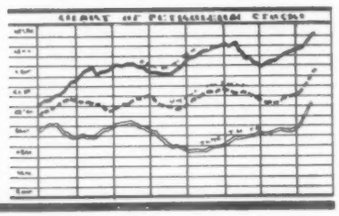


U. S. Crude Oil Production

(American Petroleum Institute figures)

	WEEK ENDED Apr. 10 Barrels (Daily Average)	WEEK ENDED Apr. 3 Barrels (Daily Average)		WEEK ENDED Apr. 10 Barrels (Daily Average)	WEEK ENDED Apr. 3 Barrels (Daily Average)
Oklahoma	344,100	344,000	Eastern (Ill. & Ind. excluded)	92,200	97,800
Kansas	309,300	314,800	Michigan	60,800	56,100
Nebraska	2,200	2,250	Wyoming	89,900	90,600
Texas	1,388,750	1,392,950	Montana	20,250	17,800
Louisiana	346,850	339,750	Colorado	6,300	6,500
Arkansas	71,250	70,650	New Mexico	97,300	92,450
Mississippi	55,000	54,450	California	780,000	785,700
Illinois	268,800	235,950			
Indiana	15,950	15,950	Total U. S.	3,948,950	3,917,700

Oil MARKETS



Pennsylvania

NEW YORK, April 17—Nos. 2 and 3 fuels were priced 0.125c higher in the upper field of Western Penna. the week ended April 17 when one refiner advanced his quotations in that amount. New ranges were 6.625 to 7.625c for No. 2 and 6.625 to 7.75c for No. 3 fuel. Same refiner advanced his 45 w.w. kerosine quotations 0.25c to 7c and 36-40 gravity fuel 0.125c to 6.625c. Kerosine advance fell within existing range of 6.55 to 8.05c, but new range for 36-40 fuel was 6.5 to 6.625c. Lower field quotations were unchanged.

Demand for most products continued strong, with shipments of kerosine and burning oils steady and lube oils closely held.

Atlantic Coast

NEW YORK, April 17—Gasoline situation "steadily" grew worse the past week, according to most East Coast suppliers, with little sign of immediate relief and "hundreds" of service stations suspending operations. Drastic measures were expected by most suppliers to bring demand into line with limitations imposed by present transportation facilities. One New York source said he would like to see the ban on gasoline shipments lifted as stocks were down to "rock bottom". Most gasoline suppliers, however, said they were operating on a few days' supply.

California

LOS ANGELES, April 17—The price situation in California remains somewhat confused. Practically all refiners are quoting the new ceiling prices of $1.20 and $1.10 for P. S. 300 and 400 fuel oil respectively. Gasoline market is somewhat stronger with the extreme bottom at 5c, 6c, and 6.5c for the 3 grades.

Mid-Continent

TULSA, April 17—Sale of 150 cars of 72-74 oct. gasoline at 5.75c, for shipment east on exception to PAO 5, was reported by inland Texas refiner. No other open spot sales were reported.

Refiners said gasoline markets throughout Mid-Continent were "active" and inventories in most cases "keeping level" or declining. Oklahoma refiner said he may have to resume cracking operations to meet increasing agricultural demand.

Some easing in demand for distillate fuels was reported by several refiners: others, however, said orders had not decreased. Stocks of these products continued "non-existant", according to most refiners.

Mid-Western

CHICAGO, April 17—Difficulty in supplying gasoline demand was reported by Central Michigan refiners with one refiner dropping out of straight run open spot market and supplying only contract commitments and most of material going for reprocessing into high octane. Price range remains unchanged. Mid-Western refiners generally said gasoline demand was increasing steadily but marketers said they had felt very little increase in past weeks.

Fuel oil demand in Mid-Western and Central Michigan area continues strong with some trouble experienced in filling it, refiners and marketers said. Lubricating and industrial oil demand is steady, they stated.

Gulf

NEW YORK, April 17—Tank car sale of gasoline and higher prices for several grades were reported at the Gulf the past week. Sale of approximately 10,000 bbls. of min. 80 oct. Army all purpose gasoline at 6.75c was reported in the Gulf Coast market, south and west of New Orleans, for tank car shipment to the East Coast, on exception to PAO No. 5.

High of price range for barge lots of 80 oct. Ethyl in the New Orleans and lower Mississippi market was advanced 0.125c when refine hiked his price to 6.75c. Cargoes of 67-68 oct. unleaded gasoline were priced 0.125c higher also when one refiner said he now was quoting grade at 5.5c. Quotations for other products were unchanged.

CRUDE PRICES

No Crude Price Changes as of April 19

Since changes in crude oil prices are so few, the 2 pages of crude oil price tables hereafter will be printed only when there are sufficient changes in prices to warrant.

In the meantime a record is being kept in the Cleveland office of NPN and OILGRAM from which the publishers will be glad to make proofs, or letters or affidavits as to what the prices are, and without charge to regular subscribers. Changes in crude oil prices will be specially noted in this market section when made.

(See NPN April 7, p. 47, 48 for latest tables)

Index of Governmental Orders Concerning Petroleum Prices

Orders, "requests", "ceilings", and other statements issued by governmental agencies concerning prices of petroleum and products, prices for which are published in this market section of NATIONAL PETROLEUM NEWS, have been published as follows:

(For orders issued prior to February see earlier issues of NPN)

	NATIONAL PETROLEUM NEWS	PLATT'S OILGRAM	Platt's OIL-Law-GRAM
Feb. 8, '43—New tank wagon price formula set on basis of reference sellers	Feb. 10, p. 8	Feb. 8, p. 1	P. 300.112 P. 272.46
Feb. 12, '43—Ceiling set on Uniontown, Kentucky crude	Feb. 17, p. 20	Feb. 12, p. 1	P. 300.115
Feb. 15, '43—Specific ceilings set on tank wagon prices for Connecticut and New England distillates	Feb. 24, p. 12	Feb. 17, p. 1	P. 300.121 P. 272.49
Feb. 15, '43—Ceiling set for retail sales of distillates in containers at bulk plants in Boston area	Feb. 24, p. 12	Feb. 17, p. 2 Feb. 22, p. 2	P. 300.126
Feb. 16, '43—Tank wagon ceilings set for Michigan distillates	Feb. 24, p. 12	Feb. 16, p. 2	P. 300.117 P. 272.47
Feb. 19, '43—Pricing formula set up for industrial oils and greases	Feb. 24, p. 9	Feb. 18, p. 1	P. 300.129
Feb. 19, '43—Crude sent through Big Inch line exempt from price control	Feb. 24, p. 9	Feb. 23, p. 1	P. 300.136
Feb. 22, '43—Tank wagon increase set for distillates in New York City and vicinity	Mar. 3, p. 12	Feb. 22, p. 1	P. 300.137
Feb. 23, '43—Distillate Diesel ceilings set at 4 Gulf Coast ports	Feb. 24, p. 8	Feb. 23, p. 1	P. 300.135
Feb. 26, '43—Specific distillate ceilings set in Washington, D. C. and Baltimore tank wagon area	Mar. 10, p. 10	Mar. 1, p. 1	P. 300.139 P. 272.52
Feb. 26, '43—Specific ceilings set on Wyoming black crudes	Mar. 3, p. 20	Mar. 1, p. 1	P. 300.142
Mar. 3, '43—New ceilings for residuals and blends set up	Mar. 10, p. 10	Mar. 3, p. 2	P. 300.144
Mar. 16, '43—Fuel oil price increase of .3c extended to Washington and Oregon	Mar. 24, p. 9	Mar. 17, p. 2	P. 300.152 P. 272.54
Mar. 17, '43—Kerosine ceiling raised at Gulf Coast refineries and in District 1	Mar. 24, p. 10	Mar. 18, p. 1	P. 300.153 P. 272.55
Mar. 24, '43—Price basis for crude at well revised	Mar. 31, p. 12	Mar. 24, p. 1	P. 300.157
Mar. 26, '43—California crudes and residual ceiling increased 25c per bbl.	Mar. 31, p. 12	Mar. 26, p. 1	P. 300.159
Apr. 1, '43—California price increase extended to all levels in District 5	Apr. 7, p. 11	Apr. 1, p. 2	P. 300.164

REFINERY and SEABOARD PRICES

In bulk lots by Motor Transport, Tank Car, Barge or Tanker as shown

NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.

HOW PRICES ARE REPORTED—

Refinery and Seaboard prices in National Petroleum News are gathered by PLATT'S OILGRAM and are published in the Monday issue of the OILGRAM.

PLATT'S OILGRAM is a reporting service issued in three identical editions daily from News Bureaus at New York, Cleveland, and Tulsa, Okla. PLATT'S OILGRAM gathers and publishes what its publisher and representatives believe to be accurate news of sales, prices and current happenings affecting the oil industry and that will be of interest to its subscribers. As this information is usually private, OILGRAM reports it according to what it is able to obtain from sources deemed reliable.

All information is supplied without guarantee as to its completeness, accuracy, time of transmission or promptness of delivery.

The subscriber receives this information for his private use and not for resale or further distribution.

Publisher reserves the right to change the extent, nature and form of showing this information at any time.

Prices shown in the tables are quotations (meaning sellers' general offers or posted prices), or actual sales prices, reported to OILGRAM by refiners for "open spot" transactions, except as otherwise specified.

Prices arrived at by discounts off a specified price or "market date of shipment," prices named in contracts or prices arrived at in accordance with any arrangement made prior to date of sale, are not for "open spot" transactions and therefore are not considered in making the price tables. Prices made to brokers and prices in "Inter-refinery" transactions are also not considered except as may be noted.

All prices are for "immediate" shipment except in Gulf Coast bulk transactions where shipment is generally to be made in ninety days. Prices are FOB refineries, pipelines, or tanker terminals in districts designated.

Prices shown are for quantities in bulk such as tank car lots, motor transport lots or barge lots; and in cents per gallon; heavy fuel oils are in dollars per barrel of 42 U.S. gallons; wax and petrolatums are in cents per pound. Prices applying to barges or cargoes only are so designated.

Prices do not include taxes or inspection fees. Prices are published at the close of the business day.

Mid-Western prices in the tables were gathered from refiners with offices located in Chicago and the surrounding territory. While the prices are quoted on a Group 3 (Oklahoma) freight basis, this is in accordance with the custom of the oil industry which uses Group 3 as a price basis for the ease of comparing prices even when the material originates in another refining district. Other refinery prices are given by and for the particular refining district where the material is made and from which it is shipped.

When prices obtained by OILGRAM do not conform to these conditions the exception and the new conditions are noted in the news lead or in conjunction with the price table by footnote or otherwise, for the particular refinery or sales district involved.

Crude oil and products covered by OILGRAM'S news and price service, except where noted, have been represented to the publisher as fully up to the customary trade specifications indicated and according to the generally accepted methods of test: and all crude oil and all products thereof as having been lawfully produced and transported.

Any apparent error should be reported to the nearest OILGRAM or National Petroleum News office at once as no correction will be made after the second issue of the OILGRAM or National Petroleum News following its publication.

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market leads.

Summary of Daily Gasoline Prices (April 12 to April 19)

U. S. Motor, (ASTM octane)	Monday Apr. 19	Friday Apr. 16	Thursday Apr. 15	Wednesday Apr. 14	Tuesday Apr. 13
78 octane Ethyl:					
Oklahoma	6.75 – 6.875	6.75 – 6.875	6.75 – 6.875	6.75 – 6.875	6.75 – 6.875
Mid-Western (Group 3 basis)	6.75 – 7.125	6.75 – 7.125	6.75 – 7.125	6.75 – 7.125	6.75 – 7.125
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	6.6 – 7	6.6 – 7	6.6 – 7	6.6 – 7	6.6 – 7
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	7 (2)	7(2)	7(2)	7(2)	7(2)
72-74 octane:					
Oklahoma	5.875– 6	5.875– 6	5.875– 6	5.875– 6	5.875– 6
Mid-Western (Group 3 basis)	5.875– 6	5.875– 6	5.875– 6	5.875– 6	5.875– 6
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.8 – 6	5.8 – 6	5.8 – 6	5.75 – 6	5.75 – 6
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	6	6	6	6	6
63-66 octane:					
Oklahoma	5.5 – 5.625	5.5 – 5.625	5.5 – 5.625	5.5 – 5.625	5.5 – 5.625
Mid-Western (Group 3 basis)	5.5 – 5.625	5.5 – 5.625	5.5 – 5.625	5.5 – 5.625	5.5 – 5.625
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.4 – 5.5	5.4 – 5.5	5.4 – 5.5	5.4–5.625 (a)	5.4–5.625 (a)
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.75(1)	5.75(1)	5.75(1)	5.75(1)	5.75(1)
60 octane & above:					
Oklahoma	5.125– 5.25	5.125– 5.25	5.125– 5.25	5.125– 5.25	5.125– 5.25
Mid-Western (Group 3 basis)	5.1 – 5.25	5.1 – 5.25	5.1 – 5.25	5.1 – 5.25	5.1 – 5.25
N. Tex. (For shpt. to Tex. & N. M. dest'ns.)	4.875– 5.25	4.875– 5.25	5.875– 5.25	4.875– 5.25	4.875– 5.25
W. Tex. (For shpt. to Tex. & N. M. dest'ns.)	5.25	5.25	5.25	5.25	5.25
Motor Gasoline, 72-74 octane (ASTM)					
New York harbor	9.2 –10.2	9.2 –10.2	9.2 –10.2	9.2 –10.2	9.2 –10.2
New York harbor, barges	9.1 – 9.3	9.1 – 9.3	9.1 – 9.3	9.1 – 9.3	9.1 – 9.3
Philadelphia district	9.2 – 9.7	9.2 – 9.7	9.2 – 9.7	9.2 – 9.7	9.2 – 9.7
Baltimore district	8.95	8.95	8.95	8.95	8.95
Motor Gasoline:					
Western Penna. Bradford-Warren:					
"Q" Gasoline, Min. 70 Oct. (ASTM)	7.5–7.75(2)	7.5–7.75(2)	7.5–7.75(2)	7.5–7.75(2)	7.5–7.75(2)
Western Penna. Other Districts:					
"Q" Gasoline, Min. 70 Oct. (ASTM)	7.25 – 7.3	7.25 – 7.3	7.25 – 7.3	7.25 – 7.3	7.25 – 7.3

REFINERY PRICES

Gasoline—U. S. Motor (ASTM) except where otherwise specified

Prices in Effect	Apr. 19	Apr. 12
OKALHOMA		
78 oct. Ethyl	6.75 – 6.875	6.75 – 6.875
72-74 oct.	5.875– 6	5.875– 6
63-66 oct.	5.5 – 5.625	5.5 – 5.625
60 oct. & below	5.125– 5.25	5.125– 5.25
60-62, 400 e.p.	5.125 (1)	5.125 (1)
MID-WESTERN (Group 3 basis)		
78 oct. Ethyl	6.75 – 7.125	6.75 – 7.125
72-74 oct.	5.875– 6	5.875– 6
63-66 oct.	5.5 – 5.625	5.5 – 5.625
60 oct. & below	5.1 – 5.25	5.1 – 5.25
N. TEX. (For shpt. to Te . & N. M. dest'ns.)		
78 oct. Ethyl	6.6 – 7	6.6 – 7
72-74 oct.	5.8 – 6	5.8 – 6
63-66 oct.	5.4 – 5.5	5.4 – 5.5
60 oct. & below	4.875– 5.25	4.875– 5.25
60-62, 400 e.p.	5.375 (1)	5.375 (1)
W. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
78 oct. Ethyl	7 (2)	7 (2)
72-74 oct.	6	6
63-66 oct.	5.75 (1)	5.75 (1)
60 oct. & below	5.25	5.25
CENT. W. TEX. (Prices to truck transports)		
80 oct. & above	7 (2)	7 (2)
72-74 oct.	5.875 (2)	5.875 (2)
67-69 oct.	5.375 (1)	5.375 (1)
62 oct. & below	5.125 (2)	5.125 (2)
AMARILLO, TEX. (For shpt. to W. Okla. & Tex. differential territory.)		
60 oct. & below	No Price	No Price
60-62, 400 e.p.	No Price	No Price
KANSAS (For Kansas destinations only)		
78 oct. Ethyl	7.25 (1)	7.25 (1)
72-74 oct.	6 –6.2 (2)	6 –6.2 (2)
63-66 oct.	5.625–5.8 (2)	5.625–5.8 (2)
60 oct. & below	5.25 –5.4 (2)	5.25 –5.4 (2)

Prices in Effect	Apr. 19	Apr. 12
ARK. (For shipment to Ark. & La.)		
72-74 oct., leaded	6 (1)	6 (1)
70-72 oct. "	5.875 (1)	5.875 (1)
62 oct. "	5.5 (1)	5.5 (1)
60 oct. & below, unleaded	5.375 (1)	5.375 (1)
WESTERN PENNA. (Motor gasoline)		
Bradford-Warren:		
"Q" Gasoline, Min. 70 Oct. (ASTM)	7.5–7.75 (2)	7.5–7.75 (2)
Other districts:		
"Q" Gasoline Min. 70 Oct. (ASTM)	7.25 – 7.3	7.25 – 7.3
CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group.)		
U.S. Motor: (Oct. ASTM):		
72-74 oct.	8 – 8.5	8 – 8.5
67-69 oct.	7.5 (1)	7.5 (1)
Str. run gasoline, excluding Detroit shpt.	5.5 – 6	5.5 – 6
OHIO (S. O. Ohio quotations for statewide delivery and subject to exceptions for local price disturbances)		
72-74 oct.	8.375	8.375
CALIFORNIA U.S. Motor:		
78 oct. & above (Ethyl)	5.5 – 8.75	5.5 – 8.75
70-75 oct. (regular)	5 – 7.75	5 – 7.75
65 oct. & below (3rd grade)	4.5 – 6.75	4.5 – 6.75

Kerosine, & Gas Fuel Oils

Prices in Effect	Apr. 19	Apr. 12
OKLAHOMA		
41-43 grav. w.w.	4.375– 4.5	4.375– 4.5
42-44 grav. w.w.	4.5	4.5
Range Oil	4 – 4.125	4 – 4.125
No. 1 P.W.	3.875	3.875
No. 1 straw	3.875–4 (1)	3.875–4 (1)
No. 2 straw	3.625	3.625
No. 3 fuel	3.5 (2)	3.5 (2)
U. G. I. Gas Oil	3.625–3.75 (1)	3.625–3.75(1)
No. 6 fuel	....	....
14-16 fuel	$0.97	$0.97
MID-WESTERN (Group 3 basis)		
41-43 grav. w.w.	4.375	4.375
42-44 grav. w.w.	4.5	4.5
Range Oil	4 (2)	4 (2)
No. 1 p.w.	3.875 (1)	3.875 (1)
No. 2 straw	3.625	3.625
No. 3	3.5 (2)	3.5 (2)
No. 5	$0.85 (1)	$0.85 (1)
No. 6	$0.80 (1)	$0.80 (1)
N. TEX. (For shpt. to Tex. & N. M. dest'ns.)		
41-43 grav. w.w.	4.25 – 4.75	4.25– 4.75
No. 1 P.W.	4.1 –4.2 (2)	4.1 –4.2 (2)
AMARILLO, TEX. (For shpt. to W. Okla. &,Tex. differential territory.)		
41-43 grav. w.w.	No Price	No Price
No. 1 straw	No Price	No Price
KANSAS (For Kansas destinations only).		
41-43 grav. w.w.	No Price	No Price
42-44 grav. w.w.	4.7–4.875 (2)	4.7–4.875 (2)
No. 1 p.w.	4.1–4.25 (2)	4.1–4.25 (2)
No. 6 fuel	$0.85 (1)	$0.85 (1)

REFINERY PRICES (Continued)

NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market leads.

Kerosine, & Gas Fuel Oil
(Continued)

Prices in Effect	Apr. 19	Apr. 12
ARK. (For shipment to Ark. and La.)		
41-43 grav. w.w.	4.625 (1)	4.625 (1)
No. 1	4 (1)	4 (1)
No. 2	3.5 (1)	3.5 (1)
No. 3 fuel	3.5 (1)	3.5 (1)
Tractor fuel, for shpt to Ark. points only	5.125 (1)	5.125 (1)
WESTERN PENNA.		
Bradford-Warren:		
45 grav. w.w.	6.55 – 8.05	6.55 – 8.05
46 grav. w.w.	6.675 (1)	6.675 (1)
No. 1 fuel	6.55 – 8.05	6.55– 8.05
No. 2 "	6.625-7.625 (2)	6.5 – 7.625
No. 3 "	6.625-7.75 (2)	6.5 –7.75 (2)
36-40 gravity	6.625-6.75 (2)	6.5 (2)
Other districts:		
45 grav. w.w.	6.75 – 7.925	6.75–7.925(a)
46 grav. w.w.	6.75 – 6.925	6.75 – 6.925
47 grav. w.w.	6.875– 7.05	6.875– 7.05
No. 1 fuel	6.5 – 6.675	6.5 – 6.675
No. 2 "	6.25 – 7.125	6.25 – 7.125
No. 3 "	6.25 – 7.125	6.25 – 7.125
36-40 grav., Pittsburgh dist. prices excluded	6.25 – 7	6.25 – 7

CENTRAL MICHIGAN (FOB Central Mich. refinery group basis for shpt. within Mich.; shpts. may originate at plants outside Central group.)

47-49 gravity w.w.	5.8 – 6	5.8 – 6
P.W. Distillate	5.5	5.5
No. 3 gas oil, Straw	5	5
U.G.I. gas oil	4.5 (2)	4.5 (2)
Fuel Oils (Vis. at 100)		
300-500 Vis.	....	....
100-300 Vis.	4.5	4.5

OHIO (S. O. quotations for statewide delivery)

Kerosine	7	7

CALIFORNIA

40-43 grav. w.w.	4.5 – 7	4.5 – 7
San Joaquin Valley:		
Heavy fuel	$1.10 (2)	$1.10 (2)
Light fuel	$1.20(2)	$1.20(2)
Diesel fuel	4 (2)	4 (2)
Stove dist.	3 – 5 (2)	3 – 5 (2)
Los Angeles:		
Heavy fuel	$1.10 (2)	$1.10(2)
Light fuel	$1.20(2)	$1.20(2)
Diesel fuel	3.5– 4	3.5– 4
Stove dist.	3 – 5 (2)	3 – 5(2)
San Francisco:		
Heavy fuel	$1.15 (1)	$1.15 (1)
Light fuel	$1.25 (1)	$1.25 (1)
Diesel fuel	4.5 (1)	4.5 (1)
Stove dist.	5.5 (1)	5.5 (1)

Note: All above heavy fuels meet Pacific specification 400; light fuel, spec. 300; Diesel fuels, spec. 200; and stove distillate, spec. 100.

Lubricating Oils

WESTERN PENNA.

Prices are for sales made, or offers reliably reported, to jobbers & compounders only.

Viscous Neutrals—No. 3 col. Vis. at 70°F.

200 Vis. (180 at 100°) 420-425 fl.

0 p.t.	31.5 (1)	31.5 (1)
10 p.t.	30.5 (1)	30.5 (1)
15 p.t.	29.5 (1)	29.5 (1)
25 p.t.	23-26 (b)	23-26 (b)

150 Vis. (143 at 100°) 400-405 fl.

0 p.t.	29.5 (1)	29.5 (1)
10 p.t.	28.5 (1)	28.5 (1)
15 p.t.	27.5 (1)	27.5 (1)
25 p.t.	21-24 (b)	21-24 (b)

(b) Offered by Mid-Western sales agent at 1c off low.

Cylinder Stocks

Brt. stk., 145-155 vis. at 210°, 540-550 fl., No. 8 col.

10 p.t.	30.5 (1)	30.5 (1)
15 p.t.	29.5 (1)	29.5 (1)
25 p.t.	25	25
600 S.R. filterable	15	15
650 S.R.	15.5	15.5
600 fl.	16	16
630 fl.	17	17

MID-CONTINENT (F. o. b. Tulsa)

Neutral Oils (Vis. at 100° F. 0 to 10 P.P.)

Pale Oils:

Vis.	Color		
60-85	No. 2	8	8
86-110	No. 2	8.5 (2)	8.5 (2)
150	No. 3	14.5	14.5
180	No. 3	15	15
200	No. 3	15	15
250	No. 3	16-16.5	16-16.5
280	No. 3	17	17
300	No. 3	18 (2)	18 (2)

Lubricating Oils (Cont'd)

Prices in Effect	Apr. 19	Apr. 12
Red Oils:		
180—No. 5	15 (1)	15 (1)
200—No. 5	15 (1)	15 (1)
280—No. 5	No Price	No Price
300—No. 5	17.5 (2)	17.5 (2)

Note: Viscous Neutrals, 15-25 p.p. generally are quoted 0.5c under 0-10 p.p. oils. Non-viscous oils, 15-25 p.p.; generally are quoted 0.25c under 0-10 p.p. oils.

Bright Stock—Vis. at 210°

200 Vis. D	27 (1)	27 (1)
150-160 Vis. D:		
0 to 10 p.p.	23	23
10 to 25 p.p.	22.5–23	22.5–23
25 to 40 p.p.	23 (1)	23 (1)
150-160 Vis. E	22 (1)	22 (1)
120 Vis. D:		
0 to 10 p.p.	22 (2)	22 (2)
600 S.R. Dark Green	8.5 (1)	8.5 (1)
600 S.R. Olive Green	10–11	10–11
631 S.R.	18.5 (1)	18.5 (1)
Black Oil	5.5 (1)	5.5 (1)

QUALIFYING PRICE NOTE: This note qualifies Mid-Continent Bright and Lube prices herewith. Refiners admit these tables show only their "posted prices" and that they make discounts from these in varying amounts depending on location of buyer and degree of competition of from 2c to 3½c on Bright Stock and upwards of 2c on neutrals. Discounts are made for immediate sale as well as for contracts. Some buyers report these discounts as high as 5c on bright and 3½c on neutrals but have not submitted written evidence.

SOUTH TEXAS Neutral Oils

Vis.	Color		
Pale Oils:	(*Vis. at 100°F.*)		
100	No. 1½-2½	6.5	6.5
200	No. 2-3	8.75	8.75
300	No. 2-3	9.25	9.25
500	No. 2½-3½	10	10
750	No. 3-4	10.25	10.25
1200	No. 3-4	10.375	10.375
2000	No. 4	10.5	10.5
Red Oils:			
100	No. 5-6	6.5 (2)	6.5 (2)
200	No. 5-6	8.75	8.75
300	No. 5-6	9.25	9.25
500	No. 5-6	10	10
750	No. 5-6	10.25	10.25
1200	No. 5-6	10.375	10.375
2000	No. 5-6	10.5–11.5	10.5–11.5

CHICAGO (From Mid-Continent p.l. crude.)

Neutral oils (Vis. at 100° F. 0 to 10 p.p.)

Pale Oils

Vis.	Color		
60-85	No. 2	9.5 (1)	9.5 (1)
86-110	No. 2	10 (1)	10 (1)
150	No. 3	15.5 (1)	15.5 (1)
180	No. 3	16 (1)	16 (1)
200	No. 3	16 (1)	16 (1)
250	No. 3	17	17
Red Oils:			
180	No. 5	16 (1)	16 (1)
200	No. 5	16 (1)	16 (1)
250	No. 5	17 (1)	17 (1)
280	No. 5	18 (1)	18 (1)
300	No. 5	18.5 (1)	18.5 (1)

Note: Viscous oils, 15 to 30 p.p. are quoted 0.5c lower; 60-85 and 86-110 No. 2 non-viscous oils, 15 to 30 p.p., 0.25c lower.

Unfiltered Steam Refined: (Viscosity at 210°)

140	11.5 (1)	11.5 (1)
160	12.5 (1)	12.5 (1)
200	13.5 (1)	13.5 (1)

Bright stocks, 160 vis. at 210 No. 8 color:

0 to 10 p.p.	24 (1)	24 (1)
15 to 25 p.p.	23.5 (1)	23.5 (1)
30 to 40 p.p.	21.5 (1)	21.5 (1)
E filtered Cyl. Stock	15.5 (1)	15.5 (1)

Note: To obtain prices delivered in Chicago, add 0.25c per gal.

Natural Gasoline

(Group 3 & Breckenridge prices are to blenders on freight basis shown below. Shipments may originate in any Mid-Continent manufacturing district.)

FOB GROUP 3

Grade 26-70 ..... 3.875 (Qtns.) 3.875 (Qtns.)

FOB BRECKENRIDGE

Grade 26-70 ..... 3.5 (Qtns.) 3.5 (Qtns.)

CALIFORNIA (FOB plants in Los Angeles basin)

21 pound vapor pressure for blending	4.75 – 5.375	4.75 – 5.375

Naphtha and Solvent

Prices in Effect	Apr. 19	Apr. 12
(FOB Group 3)		
Stoddard solvent	6.625	6.625
Cleaners' naphtha	7.125	7.125
V. M. & P. naphtha	7.125	7.125
Mineral spirits	6.125	6.125
Rubber solvent	7.125	7.125
Lacquer diluent	7.375– 8.125	7.375– 8.125
Benzol Diluent	8.375– 8.625	8.375– 8.625
WESTERN PENNA.		
Bradford-Warren District:		
Stoddard Solvent	7.5 (1)	7.5 (1)
Other Districts:		
Untreated naphtha	7 (2)	7 (2)
Stoddard solvent	7 – 7.25	7 – 7.25

OHIO (S. O. quotations for statewide delivery):

V.M.&P. naphtha, D.C. naphtha, Varnolene & Sohio solvent	10	10
Rubber solvent	9	9

Wax

White Crude Scale:

WESTERN PENNA. (Bbls. C.L.)

122-124 A.m.p.	4.25 (2)	4.25 (2)
124-126 A.m.p.	4.25	4.25

OKLAHOMA (C.L. FOB Refinery)

Semi-refined:

128 AMP min., white, 50 kilo bags	No Price	No Price
132-134 AMP, bbls.	5.25 (1)	5.25 (1)

CHICAGO (FOB Chicago district refinery of one refiner, in bags, carloads. Carloads, slabs loose 0.4c less. Melting points are EMP (ASTM) methods; add 3° to convert into AMP.)

Fully refined:

122-124 (bags only)	5.6	5.6
125-127	6	6
127-129	6.25	6.25
130-132	6.55	6.55
132-134	6.8	6.8
135-137	7.55	7.55

Petrolatums

WESTERN PENNA. (Bbls., carloads; tank cars, 0.5c per lb. less.)

Snow White	6.125– 7.25	6.125– 7.25
Lily White	5.375– 6.125	5.375– 6.125
Cream White	4.375– 5.125	4.375– 5.125
Light Amber	3.375– 3.875	3.375– 3.875
Amber	3.125– 3.5	3.125– 3.5
Red	3 – 3.25	3 – 3.25

Group 3 Freight Rates

To Division Headquarters Points of Standard Oil Co. of Indiana

(Cents Per Gal.)

	Gasoline Kerosine	*Distillate Fuel Oil	Gas Oil and or Residual Fuel Oil
Chicago, Ill.	2.508	2.508	2.516
Decatur, Ill.	2.244	2.244	2.442
Joliet, Ill.	2.508	2.508	2.516
Peoria, Ill.	2.310	2.310	2.442
Quincy, Ill.	2.178	2.178	2.294
Indianapolis, Ind.	2.640	3.034	3.034
Evansville, Ind.	2.442	2.886	2.886
South Bend, Ind.	3.135	3.135	3.330
Detroit, Mich.	4.290	3.996	3.996
Grand Rapids, Mich.	3.828	3.828	3.922
Saginaw, Mich.	4.290	4.144	4.144
Green Bay, Wis.	2.838	2.838	3.182
Milwaukee, Wis.	2.706	2.706	2.738
La Crosse, Wis.	2.574	2.574	2.886
Minneapolis-St. Paul	2.574	2.574	2.886
Duluth, Minn.	2.838	2.838	3.256
Mankato, Minn.	2.574	2.574	2.886
Des Moines, Ia.	2.046	2.046	2.294
Davenport, Ia.	2.310	2.310	2.442
Mason City, Ia.	2.376	2.376	2.664
St. Louis, Mo.	2.046	2.046	2.072
Kansas City, Mo.	1.518	1.518	1.776
St. Joseph, Mo.	1.518	1.518	1.776
Fargo, N. D.	3.564	3.564	3.996
Huron, S. D.	3.036	3.036	3.330
Whichita			
From Ponca City	0.528	0.528	0.592
From Tulsa	0.858	0.858	0.962
From Cushing	0.792	0.792	0.888

*Not suitable for illuminating purposes.

SEABOARD PRICES EXPORT AND COASTWISE

NOTE—Parenthetical figures after prices indicate number of companies quoting when less than three companies are quoting.

NOTICE—Owing to great demand, refiners generally limit quotations to regular customers and refuse bids, though higher, from others. Refiners' prices and sales shown; bids reported in market leads.

Atlantic Coast

(Prices are of refiners, FOB their refineries & their tanker terminals, & of tanker terminal operators FOB their terminals)—Prices In Effect Apr. 19

MOTOR GASOLINE

District:	Min. 80 Oct. '39 Research (Max. 2 cc Lead)	72-74 Oct. (ASTM)	68-70 Oct. (ASTM)
N. Y. Harb.	....	9.2 – 9.4	9.2(1)
N. Y. Harb., barges	....	9.1 – 9.3	9.1(1)
Albany	....	9.3 – 9.5	....
Philadelphia	....	9.2	....
Baltimore	....	8.95	8.85(1)
Norfolk	....	8.7 – 8.9	8.5(1)
Wilmington, N. C.	....	8.7 – 8.8	8.5(1)
Charleston	....	8.7(2)	8.1(1)
Savannah	....	8.25–8.4(2)	....
Jacksonville	....	8.275(1)	....
Miami	....	....	....
Tampa	....	8.27 – 8.4	8.275(1)
Pensacola	....	7 –7.2(1)	6.6–6.8(1)
Mobile	....	7 – 7.2	6.6–6.8(1)
New Orleans	....	6.125– 6.75	....
Portland	....	9.5 – 9.65	....
Boston	....	9.4 – 9.7	9.7(1)
Providence	....	9.4 – 9.7	....

FUEL OILS

	KEROSINE and/or NO. 1 FUEL	No. 2	No. 3	No. 5	No. 6
N. Y. Harb.	7.1	6.7	6.7	$1.95–$2.01 (a)	$1.65– $2.07
N. Y. Harb., barges	7	6.6	6.6	....	....
Albany	7.3	6.8	6.8(2)	$2.25(1)	$1.85–$2.27 (1)
Philadelphia	7.2	6.7	6.7	$1.98	$1.65–$2.07
Baltimore	7.2	6.7	6.7	....	$1.65–$2.07
Norfolk	7.1	6.7	6.7(1)	....	$1.65-2.07(2)
Wilmington, N. C.	7.05	6.7	....	....	....
Charleston	7.2	6.7(2)	....	....	$1.60–$2.07 (2)
Savannah	7.05(2)	....	....	....	$1.60-2.02(1)
Jacksonville	7.05(1)	6.25	....	....	$1.60-2.02(1)
Miami	7.05(1)	....	....	....	....
Tampa	7.05	6.25(2)	....	....	$1.50–$1.92 (1)
Pensacola	4.8 (1)	....	....	....	....
Mobile	4.75–5.05 (2)	....	....	....	....
New Orleans	4.25 – 4.75	3.75(2)	....	$1.27(1)	$0.85–$1.27 (2)
Portland	7.3	6.8	6.8(2)	$2.25(1)	$1.65–$2.07 (1)
Boston	7.2	6.7	6.7(2)	$1.95–$2.07 (2)	$1.65–$2.07
Providence	7.2	6.7	6.7(2)	$1.90–$1.95 (2)	$1.65–$2.07

(a) This price is for a straight-run low pour test No. 5 fuel.

	Bunker C Fuel Ships' bunkers (Ex Lighterage)	Diesel Oil Ships' bunkers (Ex Lighterage)	Diesel Oil Shore Plants	Gas House Gas Oil 28-34 Gravity
N. Y. Harbor	$1.65–$2.07	$2.78	6.7–6.8(2)	6.8(2)
Albany	$1.85(1)	$2.98(1)	6.8(1)	7(1)
Philadelphia	$1.65–$2.07	$2.78	....	....
Baltimore	$1.65 –$2.07	$2.78	6.7(1)	6.7(1)
Norfolk	$1.65 –$2.07	$2.78	6.7(1)	6.7(1)
Charleston	$1.60 –$2.02	$2.78(2)	6.7(1)	6.7(1)
Savannah	$1.60–$2.02 (1)	$2.62(1)	....	....
Jacksonville	$1.60–$2.02 (2)	$2.62(2)	....	....
Tampa	$1.50–$1.92	$2.62(2)	....	....
New Orleans	$0.97–$1.09	$1.65(1)	4(1)	....
Portland	$1.65–$2.07 (1)	$2.86(2)	6.8(1)	6.9(1)
Boston	$1.65–$2.07	$2.78	6.7(2)	6.8(2)
Providence	$1.65–$2.07	$2.78(2)	6.7(1)	6.8(1)

Residual fuel prices generally vary with A.P.I. specifications from range low for 9.9 & below degrees to range high for 25.0 & above.

Pacific Export

(Quotations at seaboard, Los Angeles, cargo lots, except where otherwise noted.)

Prices in Effect	Apr. 19	Apr. 12
375 e.p. blend, 70 oct.	No Price	No Price
390 e.p. blend, 68 oct.	No Price	No Price
390 e.p. blend, 66 oct.	No Price	No Price
400 e.p. blend, 65 oct. min.	No Price	No Price
U. S. Motor, under 65 oct.	No Price	No Price
38-40 grav., w.w. kero., 150 fire point	No Price	No Price
41-43 grav., w.w. kero.	No Price	No Price
44 grav. w.w. kero.	No Price	No Price
Diesel fuel, 24 & above	No Price	No Price
Diesel fuel, under 24	No Price	No Price
30-34 grav. diesel (gas oil) Pac. Spec. 200	No Price	No Price
Grade C fuel, Pac. Spec. 400	No Price	No Price

In Ship's Bunkers, or deep tank lots:

Diesel Fuel, Pac. Spec. 200	$1.40 –$1.45	$1.40 –$1.45
Grade C fuel, Pac. Spec. 400	$0.825–$0.85	$0.825–$0.85

Cased Goods: (Per case)

375-400 e.p. blend, 65 oct. & above	No Price	No Price
400 e.p. blend under 65 oct.	No Price	No Price
U. S. Motor	No Price	No Price
40-43 grav., w.w. kero., 150 fire point	No Price	No Price
Kero., p.w.	No Price	No Price

MID-CONTINENT LUBES

(At Gulf; in packages, FAS.; in bulk, FOB terminals)

Prices in Effect Apr. 19

	Steel Drums	Bulk
200 Vis. D 210 brt. stock	35 (1)	28.8 (1)
150 vis. D 210 brt. stock 0-10 p.p.	31 (1)	24.8 (1)
10-25 p.p.	....	....
100 vis. D 210 brt. stock 0-10 p.p.	....	....
10-25 p.p.	....	....
200 vis. No. 3 col. neutral: 0-10 p.p.	....	....

Wax

(Melting points are AMP, 3° higher than EMP. Prices are FOB refinery and do not include bag, freight or export differentials).

Prices In Effect Apr. 19

Crude Scale	New Orleans Export	N. Y. Domestic	N. Y. Export
124-6 Yellow	4.25 (1)	....	4.25 (1)
122-4 White	....	4.25 (2)	4.25 (2)
124-6 White	4.25 (1)	4.25	4.25
Fully Refined:			
123-5	5.2 (1)	5.2 (2)	5.2 (1)
125-7	5.2 (1)	5.2 (2)	5.2 (1)
128-30	5.6 (1)	5.6	5.6 (1)
130-32	5.85 (1)	5.85 (2)	5.85 (1)
133-5	6.15 (1)	6.15	6.15 (1)
135-7	6.4 (1)	6.4 (1)	6.4 (1)

Tanker Rates

(Approximate last paid rates, cents per bbl.; Gulf-N. Atlantic, not East of N. Y.)

Hvy. Crude & Fuel (10 to 19.9 gravity)	48
Light Crude, (30 grav. or Lighter)	43
Gasoline	40
Kerosine	40
No. 2 Fuel	42

Note: 200% surcharge permitted on above rate by War Shipping Administration "to cover increased war-time operating expenses."

Gulf Coast

Prices in Effect Apr. 19

	New Orleans & Lower Mississippi to Baton Rouge Tank Cars	New Orleans & Lower Mississippi to Baton Rouge Barge	Texas Gulf Coast South of New Orleans Tank Cars	Texas Gulf Coast South of New Orleans Barges	CARGOES Domestic & Export From all Gul Ports
MOTOR GASOLINE					
Leaded (oct. by ASTM)					
80 oct. min. Max. 3 cc lead	6.5 – 7	6.5 – 6.75	6.75 – 6.9	6.75 – 6.9	6 – 6.9
72-74 oct.	6.125	5.75–6.125	5.75	5.75	5.75
63-65 oct.	....	....	5.35	5.35	5.35
Unleaded 70 oct.	....	....	....	....	5.625– 5.75
67-68 oct.	....	....	....	....	5.5 – 5.625
65 oct.	....	5.25	....	....	5.25
60 oct.	....	....	....	....	5
KEROSINE & LIGHT FUELS					
41-43 w.w. kero.	4.125 4.75(a)	4.125– 4.75	4.125– 4.25	4.125	4.125
42-44 w.w. kero.	....	....	4.125	4.125	4.125
No. 2 fuel oil	3.75	3.75	3.75 – 3.81	3.75	3.75
DIESEL & GAS OILS					
(In diesel index No.)					
Below 43 di.	....	....	....	....	3.75
43-47 di.	....	....	....	....	3.875– 4
48-52 di.	4	4	4	4	4–4.125
53-57 di.	4.125	4.125	4.125	4.125	4
58 and above	....	....	....	....	4.25

Above products in Truck Transports of 2,400 gal. and over ½c above Tank Car Prices.

NOTE—Prices for heavy fuels vary within the range given above according to gravity from 9.9 grav. and below to 25 B and above.

Naphtha

Prices in Effect Apr. 19

	V.M.&P. Naphtha	Mineral Spirits
New York Harbor	11 (2)	10
Philadelphia district	11 (2)	10
Baltimore	10.5 (2)	9.5
Boston	11.5 (2)	10.5
Providence	11.5 (1)	10.5 (2)

HEAVY FUELS & BUNKER OILS (At all Gulf Ports)	In Cargoes	In Ship's Bunkers (Ex. lighterage)
Heavy Diesels		
Below 28 API Grav.	....	....
28 API Grav. & Above	....	$1.65
Bunker C Oil	$0.85–$1.27	$0.85 –$1.27

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect April 19, 1943 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. New Jersey

Esso (*Regular Grade*)

	Consumer Tank Wagon	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
*Atlantic City, N. J	10.2	10.7	4.5	10
*Newark, N. J	10.2	10.7	4.5	10
Annapolis, Md	10.55	11.05	5.5	....
Baltimore, Md	9.95	10.45	5.5	10.8
Cumberland, Md	11.35	11.85	5.5	12.3
Washington, D. C	10.2	10.7	4.5	11.3
Danville, Va	11.65	12.15	6.5	12.55
Norfolk, Va	10.45	10.95	6.5	12.3
Petersburg, Va	10.75	11.25	6.5	13.3
Richmond, Va	10.75	11.25	6.5	13.3
Roanoke, Va	11.95	12.45	6.5	12.8
Charleston, W. Va	12.25	12.75	6.5	13.6
Parkersburg, W. Va	11.55	12.05	6.5	13.3
Wheeling, W. Va	11.55	12.05	6.5	13.9
Charlotte, N. C	12.1	12.6	7.5	11.6
Hickory, N. C	12.65	13.15	7.5	12.6
Mt. Airy, N. C	12.5	13.0	7.5	11.8
Raleigh, N. C	11.85	12.35	7.5	12.6
Salisbury, N. C	12.15	12.65	7.5	13.0
Charleston, S. C	10.95	11.45	7.5	....
Columbia, S. C	11.8	12.3	7.5	....
Spartanburg, S. C	12.5	13.0	7.5	....

	Mineral Spirits T.W.	V.M.&P. T.W.
Newark, N. J	13	14.5
Baltimore, Md	15.5	....
Washington, D. C	15.5	....

Fuel Oils—T.W.	No. 1	No. 2	No. 3
Atlantic City, N. J	10	9	9
Newark	10	9	9
Annapolis, Md	....	9.25	....
Baltimore	9.8	9	9
Washington, D. C	10.3	9.4	9.4
Norfolk, Va	10	8.8	8.8
Petersburg	10.3	9	....
Richmond	10.3	9	9
Charlotte, N. C	10.6	10.4	....
Hickory, N. C	....	10	....
Raleigh	11.6	10.1	....
Charleston, S. C	....	9	....
Columbia	....	10	....
Spartanburg	....	10.8	....

*Effective Aug. 5, '42 minimum retail resale price of 14.2c posted thru New Jersey.

Discounts:

Esso gasoline—to undivided dealers, 0.5c off dealer t.w.

Kerosine—1c off t.w. price for 25 gals. or more, under contract thru territory (Baltimore city contract not necessary) except no discount in state of New Jersey.

Naphthas—To buyers taking following quantities at one time: Newark, 2c per gal. on 200 gals. or more, less than 200 gals. 0.5c higher price; Baltimore, 2c off on 25 to 100 gals. and 3c on over 100 gals.; Washington, 2c off to contract buyers.

Socony-Vacuum Oil Co., Inc.

Socony Mobilgas (*Regular Grade*)

New York City	Com. Cons. T.W.	Indiv. Dlr. T.W.	Gasoline Taxes
Manhattan & Bronx	10.1	10.6	*5.5
Kings & Queens	10.1	10.6	*5.5
Richmond	9.7	10.2	*5.5
Albany, N. Y	9.9	10.4	5.5
Binghamton, N. Y	11	11.5	5.5
Buffalo	10.2	10.7	5.5
Jamestown, N. Y	10.4	10.9	5.5
Mt. Vernon, N. Y	10.1	10.6	5.5
Plattsburg, N. Y	11	11.5	5.5
Rochester, N. Y	10.8	11.3	5.5
Syracuse, N. Y	10.5	11	5.5
Bridgeport, Conn	10	10.5	4.5
Danbury, Conn	10.5	11	4.5
Hartford, Conn	10.6	11.1	4.5
New Haven, Conn	10	10.5	4.5
Bangor, Me	10.7	11.2	5.5
Portland, Me	10.3	10.8	5.5
Boston, Mass	9.9	10.4	4.5
Concord, N. H	11.4	11.9	5.5
Lancaster, N. H	12	12.5	5.5
Manchester, N. H	11.3	11.8	5.5
Providence, R. I	10	10.5	4.5
Burlington, Vt	10.9	11.4	5.5
Rutland, Vt	11	11.5	5.5

	Mineral Spirits T.W.	V.M.&P. T.W.
Buffalo, N. Y	12.4	13.6
New York City	11	12
Rochester, N. Y	13.2	14.4
Syracuse, N. Y	14	....
Boston, Mass	12	13
Bridgeport, Conn	†16.3	†17.3
Hartford, Conn	†16.3	†17.3
Providence, R. I	13	14

	Kerosine Yard	Kerosine TW	Mobilfuel Diesel TC	Mobilfuel Diesel TW	Mobilheat Fuel Yard	Mobilheat Fuel TW
New York:						
Manhat'n & Bronx	7.5	10.3	....	9.3	7.1	9
Kings & Queens	7.5	10.3	....	9.3	7.1	9
Richmond	7.5	10.3	....	....	7.1	8.8
Albany	7.5	9.8	7	9.3	7	9
Binghamton	8.9	11.2	....	10.7	8.4	10.2
Buffalo	8.6	10.9	8	10.3	8.2	10
Jamestown	8.7	11	....	10.6	8.3	10
Mt. Vernon	7.6	10.3	....	9.4	7.2	9
Plattsburg	8.1	10.4	....	9.9	7.6	9.4
Rochester	8.7	11	7.9	10.2	7.9	9.7
Syracuse	8.5	10.8	7.8	10.1	7.8	9.6
Conn.:						
Bridgeport	7.8	10.3	....	....	7.2	8.8
Danbury	8.2	10.8	....	....	7.5	8.8
Hartford	8.0	10.5	....	9.5	7.2	9
New Haven	7.8	10.3	....	9.3	7	8.9
Maine:						
Bangor	7.9	10.2	7.4	9.7	7.4	9.1
Portland	7.5	10.2	7	9.3	7	9
Mass.:						
Boston	7.8	10.6	6.9	9.2	7.1	9
N. H.:						
Concord	8.4	10.7	....	....	8.2	10
Lancaster	9.5	11.8	....	....	9.2	11
Manchester	8.5	11.1	....	....	7.9	9.7
R. I.:						
Providence	7.6	9.9	6.9	9.2	7.1	8.9
Vermont:						
Burlington	8.1	10.4	7.5	9.8	7.5	9.2
Rutland	8.3	10.6	....	10	7.7	9.5

*Does not include 1% city sales tax applicable to price of gasoline (ex tax).

†In steel barrels.

Discounts: Diesel—On t.w. deliveries, 0.5c for at least 400 gals.; 1c for full tank truck.

Atlantic Refining

Atlantic White Flash Gasoline (*Regular Grade*)

	Commercial T.W.	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
Philadelphia, Pa	10.2	10.7	5.5	12.25
Pittsburgh	10.7	11.2	5.5	12.6
Allentown	10.7	11.2	5.5	12.6
Erie	10.7	11.2	5.5	12.6
Scranton	10.7	11.2	5.5	12.6
Altoona	10.7	11.2	5.5	12.6
Emporium	10.7	11.2	5.5	12.6
Indiana	10.7	11.2	5.5	12.6
Uniontown	10.7	11.2	5.5	12.6
Harrisburg	10.7	11.2	5.5	12.6
Williamsport	10.7	11.2	5.5	12.6
Dover, Del	....	11.2	5.5	12.6
Wilmington, Del	....	10.7	5.5	12.1
Boston, Mass	....	10.9	4.5	....
Springfield, Mass	....	11.8	4.5	....
Worcester, Mass	....	11.5	4.5	....
Fall River, Mass	....	11	4.5	....
Hartford, Conn	....	11.6	4.5	....
New Haven, Conn	....	11	4.5	....
Providence, R. I	....	11	4.5	....
Atlantic City, N. J	....	10.7	4.5	10
Camden, N. J	....	10.7	4.5	10
Trenton, N. J	....	10.7	4.5	10
Annapolis, Md	....	11.05	5.5	10.8
Baltimore, Md	....	10.45	5.5	9.8
Hagerstown, Md	....	11.55	5.5	10.3
Richmond, Va	....	11.25	6.5	12.3
Wilmington, N. C	....	11.55	7.5	11.9
Brunswick, Ga	....	10.4	7.5	‡11.1
Jacksonville, Fla	....	10.4	8.5	12.1

	Mineral Spirits T.W.†	V.M.&P. T.W.†
Philadelphia, Pa	11	12.5
Lancaster, Pa	12	13.5
Pittsburgh, Pa	12.5	13.5

Fuel Oils—T.W.	1	2	3	5	6
Phila., Pa	10.1	9	9	5.76	5.33*
Allentown, Pa	10.6	9.3	9.3	....	....
Wilmington, Del	10.1	9	9	....	....
Springfield, Mass	10.2	9.4	9.4	....	....
Worcester, Mass	10.2	9.3	9.3	....	....
Hartford, Conn	10.2	9	9	....	....

‡Does not include 1c Georgia kerosine tax.

†Mineral Spirits prices also apply to Stoddard Solvent; V.M.&P. prices also apply to Light Cleaners Naphtha.

Discounts:

Gasoline—to undivided dealers, 0.5c off dealer t.w., except Georgia & Florida dealer t.w. and undivided dealer t.w. prices are same.

Kerosine—Thru Penna. & Delaware, 2c off t.w. price on t.w. deliveries of 25 gals. or more at one time.

*Residual fuel 16.0-19.9 gravity.

S. O. Ohio††

***Sohio X-70 Gasoline (*Regular Grade*)**

	Consumer T.W.	**Reselers	Gasoline ‡S.S. Taxes	†Kerosine T.W.
Ohio, Statewide	12	10	13.5 5.5	9.3
Akron	12	9.5	12.5 5.5	9.3
Cincinnati	12	9.5	12.5 5.5	9.3
Cleveland	12	9.5	12.5 5.5	9.3
Columbus	12	9.5	12.5 5.5	9.3
Dayton	12	9.5	12.5 5.5	9.3
Marietta	12	9.5	12.5 5.5	9.3
Portsmouth	12	9.5	12.5 5.5	9.3
Toledo	12	9.5	12.5 5.5	9.3
Youngstown	12	9.5	12.5 5.5	9.3

Aviation Gasoline—Statewide

	Consumer T.W.	Gasoline Taxes
Sohio aviation grade 65 octane, Spec. AN-VV-F-756	14.5	5.5
Esso Ethyl Aviation 73 Oct.	15.5	5.5
Esso Ethyl Aviation 80 Oct.	16.5	5.5
Esso Ethyl Aviation 87 Oct.(a)	17.5	5.5
Esso Ethyl Aviation 91 Oct.	17.5	5.5
Esso Ethyl Aviation 100 Oct.	24.5	5.5

(a) Effective Oct. 15, 1942.

	†Naphtha—T.W. Statewide	Lucas County
S. R. Solvent	13.5	13.5
D. C. Naphtha	14.5	14.25
V.M.&P. Naphtha	14.5	14.25
Varnolene	14.5	14.25
Sohio Solvent	14.5	14.25

Fuel Oils—T.W.	No. 1	No. 2	No. 3	No. 4
Ohio, Statewide	8.3	8.3	7.8	....
Cleveland	10.3	10.3	9.8	7.55

*Renown (third-grade) prices are same as X-70 unless otherwise noted.

**Except authorized agents.

†Kerosine prices are ex 1c state tax. Naphtha prices are ex 1.5c federal & 4c state tax.

‡Prices at company-operated stations.

††Statewide prices are subject to exceptions other than those shown.

Discounts:

Esso aviation—on contract to hangar operators and resellers, 2c off consumer t.w.

Fuel oils—Statewide prices are for t.w. & drum deliveries of 50 gals. or more; prices for deliveries of less than 50 gals. are 0.5c higher. Cleveland Nos. 1, 2, and 3 prices are for bulk deliveries of 5 to 99 gals.; 100 gals. and over are 2c less. Cleveland No. 4 price is for full compartment hose dump only.

Naphthas—to contract consumers off t.w. prices—Statewide: 300 to 999 gals., 0.5c; 1000 to 2499 gals., 0.75c; 2500 to 4999 gals., 1c; 5000 or more gals., 1.5c. Lucas County: Less than 50 gals., tank wagon price, 50 to 249 gals., 0.5c; 250 to 499 gals., 1c; 500 gals. or over, 1.5c.

S. O. Kentucky

Crown Gasoline (*Regular*)
Standard (*Third Grade*)

	†Net Crown	Dealer Standard	Gasoline Taxes	Kerosine T.W.
Covington, Ky	9.5	8.5	6.5	9.25
Lexington, Ky	10.5	8.5	6.5	9.25
Louisville, Ky	10	9	6.5	8.75
Paducah, Ky	10	8	6.5	8.75
Jackson, Miss	10	9	7.5	*9
Vicksburg, Miss	9.5	8.5	7.5	*8.5
Birmingham, Ala	10	9	*8.5	9
Mobile, Ala	9	7	*9.5	8.5
Montgomery, Ala	10	9	*9.5	10
Atlanta, Ga	11.4	....	7.5	*11.8
Augusta, Ga	11.4	....	7.5	*11.3
Macon, Ga	11.4	....	7.5	11.8
Savannah, Ga	10.4	....	7.5	*10.8
Jacksonville, Fla	10.4	....	8.5	9.8
Miami, Fla	10.4	....	8.5	9.8
Pensacola, Fla	9	8	*9.5	8
Tampa, Fla	10.4	....	8.5	9.8

*Taxes: In tax column are included these city and county gasoline taxes: Mobile, 2c city; Birmingham, 1c city; Montgomery, 1c city and 1c county; Pensacola, 1c city. Georgia and Montgomery, Ala. have 1c kerosine tax, Mississippi 0.5c, not included in above prices.

†Consumer t.w. prices are same as net dealer prices.

S. O. Indiana

Red Crown (*Regular Grade*)
Blue Crown (*Third Grade*)

	Red Crown Cons. T.W.	Dealer Prices Red Crown	Blue Crown	Gasoline Taxes	Kerosine T.W.
Chicago, Ill	10.9	8.9	8.4	4.5	10.6
Decatur, Ill	10	8.5	8	4.5	9.8
Joliet, Ill	11.9	9.6	8.5	4.5	10.6

(Continued on next page)

Above prices include these inspection fees on both gasoline and kerosine unless otherwise specified per gallon:
Alabama 1/40c on gasoline, 1/2c on kerosine; Arkansas 1/20c; Florida 1/8c; Illinois 3/100c; Indiana 1/5c in lots of 25 bbls. or less, 2/25c in lots of more than 24 bbls.; Kansas 1/50c; Louisiana 1/32c; Minnesota 7/200c, Missouri 1/50c; Nebraska 3/100c; Nevada, gasoline 1/20c; North Carolina 1/4c; North Dakota 1/20c; Oklahoma 2/25c; South Carolina 1/8c; South Dakota 1/20c; Tennessee 2/5c; and Wisconsin 3/100c.
Kerosine inspection fees only: Iowa 3/50c; Michigan 1/5c per gal.

TANK WAGON PRICES

Commercial or consumer tank car, tank wagon, dealer, and service station prices for gasoline **do not include taxes;** *they do, however, include inspection fees as shown in general footnote. Gasoline taxes, shown in separate column, include 1.5c federal, and state taxes; also city and county taxes as indicated in footnotes. Kerosine tank wagon prices also do not include taxes; kerosine taxes where levied are indicated in footnotes. Dealer discounts are shown in footnotes. These prices in effect April 12, 1943 as posted by principal marketing companies at their headquarters offices, but subject to later correction.*

S. O. Indiana (Cont'd)

Red Crown (*Regular Grade*)
Blue Crown (*Third Grade*)

	Red Crown Cons. T.W.	Dealer Prices Red Crown	Blue Crown	Gasoline Taxes	Kerosine T.W.
Peoria, Ill.	11.7	9.2	9.1	4.5	10.4
Indianapolis, Ind.	11.6	9.7	9.6	5.5	*10.1
Evansville, Ind.	11.4	9.9	7.9	5.5	*9.9
South Bend, Ind.	12	10.5	10	5.5	*10.5
Detroit, Mich.	11.4	9.9	9.4	4.5	10
Grand Rapids, Mich.	10.8	9.3	8.8	4.5	9.9
Saginaw, Mich.	11.4	9.9	9.4	4.5	9.9
Green Bay, Wis.	12.2	10.7	10.2	5.5	10.9
Milwaukee, Wis.	12.1	10.6	10.1	5.5	10.8
La Crosse, Wis.	11.9	10.4	9.9	5.5	10.6
Minneapolis-St. Paul	11.9	10.4	9.5	5.5	10.6
Duluth, Minn.	12.2	10.7	10.2	5.5	10.9
Mankato, Minn.	11.9	10.4	9.5	5.5	10.6
Des Moines, Ia.	11.4	9.9	9.4	4.5	*10.1
Masor City, Ia.	11.7	10.2	9.7	4.5	*10.4
St. Louis, Mo.	10.3	8.8	8.6	*4.5	10.1
Kansas City, Mo.	10.4	8.9	7.9	*4.5	9.7
St. Joseph, Mo.	11.2	9.7	8.7	*4.5	9.7
Fargo, N. D.	12.9	11.4	10.5	5.5	11.6
Huron, S. D.	12.3	10.8	10.3	5.5	11
Wichita, Kans.	9.7	8.2	6.5	4.5	8.3

Stanavo Aviation 73 Octane

Chicago, Ill.	15.7	4.5
Milwaukee, Wis.	15.9	5.5
Minneapolis, Minn.	15.7	5.5
St. Louis, Mo.	15.2	*4.5
Kansas City, Mo.	14.8	*4.5
Fargo, N. D.	16.7	5.5
Huron, S. D.	16.1	5.5

	Oleum Spirits	V.M.&P. Naphtha	Stanisol	*Taxes
(Prices are base prices before discounts)				
Chicago	13.5	13.8	12.8	4.5
Detroit	15.8	15	16.3	4.5
K. C., Mo.	13.3	14.3	13.8	1.5
St. Louis, Mo.	13.7	14.7	13.2	1.5
Milwaukee	14.4	15.4	14.9	5.5
Minnep'ls	14.2	15.2	13.5	5.5

Fuel Oils T.W.

Chicago	Standard Heater Oil
1-99 gals.	9.3
100-149 gals.	8.3
150 gals. & over	7.8

	Stanolex Fuel Oil No. 1	Stanolex Furnace Oil
1-99 gals.	8.8	8.8
100-149 gals.	7.8	7.8
150-399 gals.	7.8	7.8
400 gals. & over	7.3	7.3

	Stanolex Fuel Oil A	Stanolex Fuel Oil B
1-99 gals.	8.3	8.3
100-399 gals.	7.3	7.3
400-749 gals.	6.3	6.3
750 gals. & over	5.55	5.55

	Stanolex Bunker C Fuel Oil
1-399 gals.	6.8
400-999 gals.	5.8
1000 gals. & over	4.8

Other Points Indianapolis	Stanolex No. 1	Stanolex Furnace Oil
1-99 gals.	...	*9.0
100 gals. & over	...	*8.0
Detroit		
1-99 gals.	...	8.1
100 gals. & over	...	7.1
Milwaukee		
1-99 gals.	...	9.0
100 gals. & over	...	8.0
Minneapolis		
1-99 gals.	...	8.8
100 gals. & over	...	7.8
St. Louis		
1-99 gals.	8.6	8.1
100 gals. & over	7.6	7.1
Kansas City		
1-99 gals.	...	7.9
100 gals. & over	...	6.9

*Taxes: In gasoline tax column are included these city taxes—Kansas City, St. Joseph, and St. Louis, 1c. Indiana kerosine and fuel oil prices are ex 4c state tax; Iowa kerosine prices are ex 3c state tax. In naphtha tax column are included 1.5c federal tax and state taxes.

State sales, occupation, consumer and use taxes to be added when applicable.

S. O. Nebraska

(*Regular Grade*)

	T.W. Dealer	Gasoline Taxes	Kerosine T.W.
Omaha	11.4 8.9	6.5	10.1
McCook	10.5 9.4	6.5	9.3
Norfolk	11.9 10.4	6.5	10.6
North Platte	11 9.9	6.5	10.3
Scottsbluff	12.4 9.5	6.5	9.8

S. O. Louisiana

Esso Gasoline (*Regular Grade*)

	Consumer Tank Wagon	Dealer T.W.	Gasoline Taxes	Kerosine T.W.
New Orleans, La.	8.75	9.25	8.5	*9
Baton Rouge, La.	8.75	9.25	8.5	*9.5
Alexandria, La.	8.75	9.25	8.5	*9.5
Lafayette, La.	9	9.5	8.5	*9
Lake Charles, La.	9	9.5	8.5	*11
Shreveport, La.	8.5	9	8.5	*8
Knoxville, Tenn.	9.5	10	8.5	12.5
Memphis, Tenn.	8.90	9.40	8.5	10.5
Chattanooga, Tenn.	10.5	11	8.5	11
Nashville, Tenn.	10.5	11	8.5	10
Bristol, Tenn.	10.95	11.45	8.5	13.1
Little Rock, Ark.	9.5	10	8	10

*Louisiana kerosine prices are ex 1c state tax.
Discounts:
Esso Gasoline—To undivided dealers, 0.5c off dealer t.w.

Humble Oil & Refining Co.

Humble Motor Fuel (*Regular Grade*)
Thriftane (*Third Grade*)

	Humble *Tank Wagon	Humble Retail	Thriftane *Tank Wagon	Thriftane Retail	Gasoline Taxes
Dallas, Tex.	6.5	9.5	5.5	7.5	5.5
Ft. Worth, Tex.	6.5	10.5	6	9	5.5
Houston, Tex.	8.5	12.5	7.5	10.5	5.5
San Antonio, Tex.	8.5	12.5	7.5	10.5	5.5

	Kerosine *Tank Wagon	Retail
Dallas, Tex.	7	11
Ft. Worth, Tex.	7	11
Houston, Tex.	8	11
San Antonio, Tex.		10
73 Oct. Aviation Gasoline		**Tank Car**
FOB Baytown, Tex.		8.5

*To all classes of dealers & consumers.

The Texas Co.

	Gasoline—Dealer T.W. Fire-Chief (*Regular*)	Indian (*3rd Grade*)	Gasoline Taxes
Dallas, Tex.	7.5	6.5	5.5
Ft. Worth, Tex.	6.5	6.0	5.5
Wichita Falls, Tex.	8.5	7.5	5.5
Amarillo, Tex.	8.5	7.5	5.5
Tyler, Tex.	8.5*	7.5*	5.5
El Paso, Tex.	9.5	8.5	5.5
San Angelo, Tex.	8.5	7.5	5.5
Waco, Tex.	8*	7*	5.5
Austin, Tex.	8.5	7.5	5.5
Houston, Tex.	8.5	7.5	5.5
San Antonio, Tex.	8.5	7.5	5.5
Port Arthur, Tex.	8.5	7.5	5.5

*Less 1c temporary allowance to all dealers.

Continental Oil Co.

(N.B. Prices are Continental's "structural" prices. Prices do not reflect temporary reductions made to meet local competition).

	Conoco Bronz-z-z (*Regular*) †Tank Wagon	Demand (*3rd Grade*)	Gasoline Taxes	Kerosine T.W.
Denver, Col.	11	10	5.5	11
Grand Junction, Col.	12	11	5.5	12
Pueblo, Col.	10.5	9.5	5.5	10.5
Casper, Wyo.	11.5	10.5	5.5	12
Cheyenne, Wyo.	11	10	5.5	11.5
Billings, Mont.	12.5	11.5	6.5	12.5
Butte, Mont.	13.5	12.5	6.5	13.5
Great Falls, Mont.	12.5	11.5	6.5	12.5
Helena, Mont.	13	12	6.5	13
Salt Lake City, Utah	13.5	12.5	5.5	14.5
Boise, Ida.	14.1	13.1	6.5	16.5
Twin Falls, Ida.	15.6	14.6	6.5	17
Albuquerque, N. M.	10	9	*7	9.5
Roswell, N. M.	9.5	8.5	*7	9
Santa Fe, N. M.	10.5	9.5	*7.5	10
Ft. Smith, Ark.	9.5	9.25	*7	9.5
Texarkana, Ark.	9	8	*5.5	9
Muskogee, Okla.	9.5	8.5	7	8.5
Oklahoma City, Okla.	9.5	8.5	7	8.5
Tulsa, Okla.	9.5	8.5	7	8.5

*Taxes: In gasoline tax column are included these city taxes—Albuquerque, & Roswell, 0.5c; Santa Fe, 1c. Texas 4c state tax applies within city limits of Texarkana, Ark.; Okla. 5.5c state applies within city limits of Ft. Smith, Ark.
†To consumers & dealers

S. O. California

Standard Gasoline (*Regular Grade*)
Flight Gasoline (*Third Grade*)

	Standard Posted Net Tank Truck	Standard Posted Retail	Flight Posted Net Tank Truck	Flight Posted Retail	Gasoline Taxes
San Francisco, Cal.	10	14	9	12	4.5
Los Angeles, Cal.	9.5	13.5	8.5	11.5	4.5
Fresno, Cal.	11	15	10	13	4.5
Phoenix, Ariz.	12	16	10	13	6.5
Reno, Nev.	12	16	11	14	5.5
Portland, Ore.	10.5	14.5	9.5	12.5	6.5
Seattle, Wash.	10.5	14.5	9.5	12.5	6.5
Spokane, Wash.	12.5	16.5	11.5	14.5	6.5
Tacoma, Wash.	10.5	14.5	9.5	12.5	6.5

Std. Aviation 73

	Posted Net Tank Truck	Gasoline Taxes	Kerosine Tank Truck
San Francisco, Cal.	12.5	4.5	11.5
Los Angeles, Cal.	12	4.5	10
Fresno, Cal.	13.5	4.5	12.5
Phoenix, Ariz.	14.5	6.5	12.5
Reno, Nev.	14.5	5.5	13.5
Portland, Ore.	13	6.5	13.8
Seattle, Wash.	13	6.5	13.8
Spokane, Wash.	16	6.5	16.8
Tacoma, Wash.	13	6.5	13.8

Resale & Commercial: T.C. deliveries 0.25c per gal. off posted net tank truck.

Commercial: Retail deliveries, and /or tank truck deliveries of less than 40 gals., 4c per gal. above posted net tank truck price for Standard Aviation and Standard Gasoline, and 3c per gal. above posted net tank truck for Flight Gasoline, except single deliveries of less than 40 gals. to Marine trade only, which are billed at posted net tank truck price.

Canada

PRICES ON IMPERIAL OIL, LTD.

Per Imperial Gallon, which is 1.2 U. S. Gallons

3-Star Imperial Gasoline (*Regular Grade*)

	†Gasoline T.W.	*Gasoline Taxes	†Kerosine T.W.
Hamilton, Ont.	17.5	11	18
Toronto, Ont.	17.5	11	18
Brandon, Man.	21	10	23
Winnipeg, Man.	20.5	10	22.5
Regina, Sask.	18	10	20
Saskatoon, Sask.	20.8	10	22.8
Edmonton, Alta.	18.9	10	20.9
Calgary, Alta.	16	10	18
Vancouver, B. C.	15	10	24
Montreal, Que.	17	11	17.5
St. John, N. B.	16.5	13	19
Halifax, N. S.	16.5	13	19

*Includes 3c Federal, and Provincial taxes.
†To divided & undivided dealers.

Tank Wagon Price Changes

(These changes have been made in price tables)

S.O. New Jersey—No. 1 fuel oil prices were increased 0.3c at all points, effective Mar. 19.

S.O. California—Kerosine prices in Oregon and Washington were up 0.3c effective Mar. 19.

Above prices include these inspection fees on both gasoline and kerosine unless otherwise specified per gallon:
Alabama 1/40c on gasoline, 1/2c on kerosine; Arkansas 1/20c; Florida 1/8c; Illinois 3/100c; Indiana 1/5c in lots of 25 bbls. or less, 2/25c in lots of more than 25 bbls.; Kansas 1/50c; Louisiana 1/32c; Minnesota 7/200c; Missouri 1/50c; Nebraska 3/100c; Nevada, gasoline 1/20c; North Carolina 1/4c; North Dakota 1/20c; Oklahoma 2/25c; South Carolina 1/8c; South Dakota 1/20c; Tennessee 2/5c; and Wisconsin 3/100c.
Kerosine inspection fees only: Iowa 3/50c; Michigan 1/5c per gal.

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Bowen Oil & Equipment Co.,
Bement, Ill.

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About OIL PEOPLE

Thanks . . . From the Oil Industry

For a Job Well Done in Wartime Government Service

TO:

William H. Tell, Chicago, who resigned effective April 15 as counsel and secretary of the general, refining and marketing committees of District 2. A Chicago attorney for the past 12 years, he has served the oil industry committees in District 2 since Sept. 1, 1941. He becomes corporation counsel for Ohio Oil Co., Findlay.

* * *

Gene P. Harper, Chicago, who resigned effective April 15 as senior materials analyst in PAW's District 2 office. Mr. Harper took leave as president of the Franklin Supply Co. to serve with PAW for 3 months. He returns to his old job.

* * *

L. E. Fleming, general manager of the transportation department of California Standard, will leave that company soon to assume duties with PAW in District 5 as transportation director. His appointment was announced April 16. He joined New York Standard in 1915, PAW said, and was engaged in administrative, marketing and distribution activities in China until late in 1924. In 1925, he joined California Standard, becoming general manager of the transportation division in 1934. Mr. Fleming also was appointed Pacific Coast industry member of the tanker control board upon its organization in August, 1941, and during the past 14 months has been chairman of the Navy contact committee, a subcommittee of the District 5 transportation committee, established to assist the navy in solution of Pacific Coast petroleum tanker problems.

° ° °

John Eubank, Derby Oil Co. jobber at Pratt, Kans., is back from Hot Springs, N. M., where he spent several months.

° ° °

Socony Vacuum's new tanker, the "S. S. Samoset", was launched Mar. 27 with Mrs. Anders M. Johansen as sponsor. She is the widow of Captain Johansen who was killed while master of a Socony-Vacuum tanker sunk by enemy action a year ago. Mrs Johansen is standing with Captain Edwin L. Fiske of the company's marine transportation department, and Wilbur F. Burt, director in charge of manufacturing. Ceremony took place at the Sparrows plant of Bethlehem Steel Co.

S. P. McConnell, Norfolk, Va., Colonial Oil Co., regularly plays host to torpedoed seamen and has become a popular figure among the sailors of America's merchant marine who visit Hampton Roads. He recently directed the opening of the United Seamen's Service Recreation Center and combined hotel of 65 rooms. Mr. McConnell is pictured at left holding a USS flag while a 340-lb. twice-torpedoed "bo'sun" holds the other end

R. R. Kibbe, Texaco's district manager at Boston for the past 2 years, has been transferred to Chicago as manager of central territory sales, succeeding **Walter Hochuli,** now in Washington as PAW's director of marketing.

Mr. Kibbe joined Texaco at Springfield, Mass., 22 years ago. Previous to his Boston post, he was manager for 2½ years at Indianapolis for Indian Refining Co., Texaco subsidiary.

° ° °

Service awards for 10 or more years with Gulf Oil Corp. were presented to 26 New York employes April 6 by **M. N. Weir,** acting division manager. In the 32 states where Gulf operates, a total of 2352 employes, who have completed from 10 to 40 years of service, will receive awards.

° ° °

W. T. Holliday, Cleveland, president of Standard Oil Co. of Ohio, has been elected president of the Cleveland Chamber of Commerce. He has been interested in Chamber affairs since 1928, serving on various committees including manufacturers, public finance and taxation, and aviation.

Three Pennsylvania refiners, Charlie Felton (Franklin Creek), C. P. Rennacker (James B. Berry Sons), and M. H. Hindman (Pennsylvania Refining), sat down with C. B. McCollough, Detroit, White-Star Ohio Division, Socony-Vacuum Oil Co., in the foyer outside the Empire Room at Hotel Cleveland for a brief interlude during N.P.A.'s semi-annual meeting April 15-16 **(see story p. 14)**

Major Davidson

In Cleveland, visiting his sister and his Alma Mater, Case School of Applied Science, is **Major Harold M. Davidson,** engineer in charge—before the Japs came—of the 143-acre Palembang, Sumatra, refinery of Nederlandsche Koloniale Petroleum Maatschappij, subsidiary of Standard-Vacuum Oil Co. He's on sick leave, wearing a black patch over his right eye—the result of a tropical infection.

At Case, Major Davidson described the demolition of the $30,000,000 Palembang refinery while swarms of Japs dropped by parachute from transport planes.

"There had been a lot of talk about the strong defenses in the Netherlands' Indies," he reminisced, "but we weren't kidding ourselves. Our demolition plans had been drawn up for a long time. After the fall of Singapore . . . on Feb. 14 (1942) . . . 7 Jap fighters flew out of low-hanging clouds. It had been raining for several days, and vapor from the steaming jungle rose to meet the clouds, so that we didn't see the Japs until they were almost upon us.

"They banked, dived, and sprayed the open areas with machine-gun bullets. Right behind came 12 transport planes, and seconds later the air was filled with parachute troops. British and Dutch machine gunners opened up and prevented them from entering our compound after they landed, but across the Komering River, another refinery wasn't so fortunate. We saw the Jap flag go up over one of their distillation towers, and we knew we were in for a siege."

Then, he continued, the Netherlands Army demolition squad moved in. Oil had already been drained out of the stills, and one group lit the furnaces, thus burning up the tubes and the still-bottoms. Some attacked shop equipment with sledges and acetylene torches. Out in the jungle another group dropped drilling bits and tools into miledeep wells and plugged the holes with cement. Pumping stations and pipelines were blown up, as were trucks and tractors.

Incendiary bombs had been planted in piles of oil-soaked shavings at 27 places. Finally drawoff valves were opened, and 2,000,000 gal. of oil flowed out.

"As we crouched low in our boats starting up to Moosi (river), we heard an awe-inspiring 'whoosh' as the incendiaries were set off and that vast area of oil caught fire. The roaring flame and mountainous billows of smoke against the background of the tropic night were a sight," Major Davidson said.

"There's one consolation," he added. "When we destroyed that plant, we did such a thorough job . . . it will take the Japs from a year to 18 months to get it operating again."

Most of the employes and their families had been evacuated before the attack. Only 16 Americans were left at the refinery, and they escaped in two launches down the Jap-infested Moosi, reaching Batavia, Java, and then a small embarkation point on the south coast where a freighter took them to Melbourne. It was there that Davidson was commissioned a major in the supply division by Gen. Brett who was in command before Gen. MacArthur arrived.

Major Davidson says he wants to get back to the Indies. "We've got to get those plants going again—for us."

° ° °

Carroll W. Johnson, District 2 director of marketing, and his entire department has moved from the 12th to the 14th floor, although visitors still enter via the reception desk on the 12th floor. More room was needed.

° ° °

Ten per cent of the proceeds from the annual spring frolic of the New Jersey Oil Trade Assn., held April 1 at Newark, was donated to the American Red Cross, according to **J. H. Gunn,** N.J.O.T.A. executive secretary. A record attendance of over 200 was present, including delegates from the Oil Trades Assn. of New York, headed by President **W. M. Osborne** and Secretary **Joseph C. Smith,** and Directors **Charles Beacon** and **John H. Renick.**

Frank P. Gill, president of the Jersey association, was toastmaster. Brief talks and a floor show followed the dinner.

° ° °

A former member of the geophysical division of The Texas Co. at Houston has been awarded the Purple Heart and the Distinguished Flying Cross as the result of a single raid on Europe.

He is **Capt. R. J. McBride, Jr.,** 26, pilot of a Liberator bomber, who was wounded while piloting his big 4-motored ship through a veritable wall of flak in a raid on Brest last Nov. 7.

Capt. McBride's parents, Mr. and Mrs. **Ralph J. McBride, Sr.,** now reside in Albany, N. Y. where Mr. McBride is traveling auditor for The Texas Co.

° ° °

J. M. Nisbet, Bartlesville, Okla., manager of the land, lease and geological division of Cities Service Oil Co. at Bartlesville, was elected a vice-president of the company at the annual meeting of the board of directors, held at the company's offices April 17, **H. R. Straight,** president, announced. Mr. Nisbet will continue with his present duties.

M. J. Kirwan, in charge of oil production, was elected to the board. All other officers were re-elected.

° ° °

Norman J. McPhail, fuel oil section chief of PAW's District 5 marketing division, is in Washington for a few days to catch up on the latest developments on industrial conversions from oil to other fuels.

° ° °

A. N. Hendrickson, oil operator, has been elected mayor of Midland, Tex.

On the Lazybench

This week, for the first time we're running a second page of items About Oil People. You'll find more on the preceding page, including a new department of Thanks from the Oil Industry to oil men who have completed terms of wartime service with the government, sacrificing their time and often money. NPN's reporters will attempt to search out all oil men and oil equipment men who, upon leaving, deserve a salute from the oil industry for jobs well done in war agencies. But it is a big job. We hope you will help.

In launching broadened coverage of oil men's activities the editors recognize the definite place under wartime stress for fun and relaxation. We hope On the Lazybench will help serve that need. The editors may, from time to time, spill here their own sour commentary on facts and fancy; otherwise we'll select and print the best of appropriate levity coming to our attention.

In deciding on "On the Lazybench", the editors chose a name familiar to NPN readers. The last—we called it "Bench" around the news room—appeared in 1936 and, believe it or not, we still get letters asking: "Why don't you start the Lazybench again?" So here it is. We know you have a favorite joke up your sleeve. Send it to us.

* * *

Short Jump, Big Jolt

The Wall Street Journal tells a story something like this:

A certain pilot instructor at Kansas City is taking a ribbing these days because of a short parachute jump.

He had taken a well-advanced student up on a training flight, the student occupying the front cockpit, the instructor the rear. Everything went smoothly and the instructor fell asleep. The student, completing the flight, landed the plane and taxied into a hangar. He killed the motor and walked off, leaving the instructor sleeping. Waking up, the instructor noticed the front cockpit was empty. The silence told him the motor was dead. Thinking the student had bailed out when he encountered motor trouble, the instructor, in a sleepy haze, hurriedly dropped over the side, pulled the rip-cord, and landed on the concrete floor of the hangar, breaking a collar bone.

° ° °

How's this for speed?

A British gob, intrigued by rumored excellence of new U. S. aircraft carriers, was querying an American sailor for confirmation.

"They tell me your new aircraft carriers are pretty fast," said the Britisher.

"Yeah, they are," replied the American.

"How fast are they, really?"

"Well," said the American sailor, "we actually don't know yet. We've never opened them up. So far, we've only expected them to keep up with the airplanes."

° ° °

Re: Ickes-Brown Correspondence

A tisket, a tasket,
It was very wrong to ask it.
"Did you get a letter from your love,
Mr. B., Mr. B.?"

"I will not say, I will not say,"
And Mr. B. just looked away.
For Mr. B. was very shy
And would not tell on Mr. I.

And so to Mr. I. they turned,
And bold he was, his bridges burned.
Said Mr. I., a man of pluck,
"I think that guy is passing the buck."

—*By Marglio*

How to find your way around WASHINGTON

• by letter

• by telephone

Over 2000

individual names, with correct titles, addresses, room numbers, telephone numbers and extensions, plus the names of war-oil committees or government agencies in which they are serving.

IF YOU call the right individual the first time, you may save the price of a useless long distance call—PLUS—the valuable time wasted and the consequent wear and tear on your nervous system.

IF YOU know the correct telephone and extension number of the man you are calling in Washington, you can avoid delay and confusion, sometimes running into an hour or more, on each long distance call you put through.

IF YOU know the correct departmental designation as well as the man's correct initials and room number, your letter may reach him a full day sooner and you may save as much as a week in getting a reply.

Save yourself two hours every day

"We are a small company," writes a busy Illinois oil jobber. "We used the directory once and it saved at least two hours time. So it is already worth its price." There is the story in a nutshell.

How many copies do you need?

Take the total number of executives, stenographers, secretaries and telephone operators in your organization. That is the number of copies of Platt's War-Oil Directory you need. Then multiply this same number by two and you will know how many priceless working hours you will save every day.

Every PBX operator needs copy

The government is demanding that we in the oil industry make more efficient use of the long distance telephone. Here is one way you can cooperate easily and to your own advantage. See that each of your PBX operators has a copy of this book for instant reference. She can then call the man you want to talk to with the least possible delay—and without going through the telephone company's directory service.

WHAT USERS SAY:

- *"Very useful directory."*
- *"The book is serving a good purpose."*
- *"Just the book needed for these busy days."*
- *"Believe it will become of increasing value as time goes on."*
- *"Use this directory occasionally, but at those times find it well worth while."*
- *"Very helpful. Good job as it is. Can't suggest any improvements at this time."*
- *"It has been of considerable use to me in locating government employes in Washington. At the last meeting of the PIWC, I and several others found it of considerable value in identifying different government employes with their departments."*

Save money on long distance calls

There are 40,000 to 50,000 people being served by some of these war agency exchanges. By calling the extension number—as well as the exchange number—you get your calls through faster, and avoid mistakes that will show up on your telephone bill later.

Your stenographers each need a copy

The Post Office is urging oil men to help it, too. The Post Office has a manpower shortage just like everyone else. It wants us to avoid misdirected letters and incomplete addresses. That makes sense. Every letter must have street address. By obviating any necessity for going through the Post Office's directory service, you insure your letter's delivery in the shortest possible time.

Courtesy that pays

This directory will make it easy for your secretaries and stenographers to spell your correspondent's name correctly—and get his title and initials right, using the form of salutation which he personally prefers. A man's name—and often his title—are among his most honored possessions and he appreciates having them spelled and abbreviated according to his own ideas.

Get your order in at once

A directory of government personnel becomes obsolete rapidly these days. That is why such publications have to be reissued frequently. The sooner you receive your copy, the more use you will get out of this book and the more you will get for your money. Mail the coupon today.

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- to the thousands fighting research, production, and transportation battles here at home.
- to the patriotic earners putting 10% of their income in War Bonds . . . (more than 90% of all Pure Oil employees!)
- to the men who've given their lives—and to their buddies who grin and go bravely on giving *their* lives—manning tankers.
- to the courageous distributors and dealers—Pure Oil's own distributors and dealers among them—sticking to their guns in spite of reduced help and reduced income, to keep America's war-vital wheels rolling here at home.

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TECHNOLOGY DEPT:

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DETROIT

Mid-Western Oil Men Study Supply Zoning

IN CHICAGO, mid-western oil men met to hear a discussion of PAW Directive 65, requiring zoning of supplies and distribution in District 2. They were told why the directive is necessary and that it won't be put 100% in force overnight. John W. Boatwright (Indiana Standard), Chicago, acted as master of ceremonies of an open forum discussion. Standing at microphone, he introduces a speaker. Others in picture (left to right): Paul G. Blazer (Ashland Oil & Refining), Ashland, Ky., District 2 refining committee chairman; and W. W. Vandeveer (Allied Oil), Cleveland, member of the District 2 supply and distribution committee and chairman of the District 2 temporary tanker operating subcommittee (see story on p. 4)

New England Oil Men View Oil's War Outlook

IN BOSTON, New England oil men, worried about supply, heard the latest from government officials at a war conference of the New England Independent Oil Men's Assn. Above, J. Howard Marshall, PAW chief counsel, addresses the meeting. Others at the table are (left to right): Dr. Joel Dean, OPA's fuel rationing chief; Glenn Arnold (Petroleum Heat & Power), vice-president of the association; and Clyde G. Morrill, Boston, the association's executive secretary. Dr. John W. Frey, of PAW, was one of the principal speakers (see story p. 9)

BULLETINS

OPA CHECKS FUEL ~~RATIONING SURVEY~~

WASHINGTON—OPA analysts are checking over a survey of last winter's fuel oil rationing as seen by domestic consumers. The survey was made by field agents of the Bureau of Agricultural Economics, U. S. Department of Agriculture and covers all the rationed states.

Bureau agents circulated questionnaires to determine householders' experience with fuel oil rationing, similar to those the Bureau used to test out how well people in 2 Ohio counties liked gasoline rationing.

Returns are being studied for making any needed last minute changes in the rationing plan already drawn up for next winter. A spokesman for OPA told NPN, however, that the plan would probably be issued as is.

* * *

OPA GIVES RATIONING STATISTICS

WASHINGTON—National driving average is now 5000 miles per year, a cut of 50% from average before rationing, OPA said in announcing rationing statistics April 27.

Number of passenger car ration books outstanding Jan. 1, 1943, OPA said, was: "A" 25,000,000 (including persons also holding "B" and "C" books); "B"—6,400,000; and "C"—3,600,000.

* * *

NEW ENGLAND DENIED MORE 'GAS'

WASHINGTON—PAW Ickes, in wires to 6 New England governors April 27, denied a plea for increased gasoline allowances. Ickes said eastern stocks of automotive gasoline are below a safe minimum level and supplies have dropped at all principal supply points including New York, Albany, Philadelphia, Pittsburgh, Baltimore, Atlanta and Tampa.

"Shipment of gasoline by tank car into District 1 for non-military purposes now being approved only when such movements are necessary to relieve refineries of stock accumulations thereby permitting continued manufacture of necessary war products," Ickes' wire stated.

* * *

'GAS' PANEL SET UP BY OPA

WASHINGTON—OPA is forming an industry advisory panel on east coast gasoline rationing, similar to that set up several weeks ago on fuel oil, which will hold first meeting here April 29. Representatives of 17 eastern oil companies, including retailers, were invited by telegram to attend and serve as members.

* * *

TINSLEY CRUDE HIKE EXPECTED SOON

WASHINGTON—Favorable action by OPA on request for 12c advance in ceiling price on crude oil from Tinsley Field, Miss., is expected shortly by Sen. Eastland, Miss., his office told NPN on April 27. Tinsley production is around 53,000 b/d. If this crude price advance goes through, it will be the first increase on a large field since President Roosevelt's "Hold-the-line" order freezing prices and wages.

Current Draft of Next Season's Fuel Oil Rationing Plan . . . P. 34

YOUR PUMPS WILL HELP BEAT HITLER—

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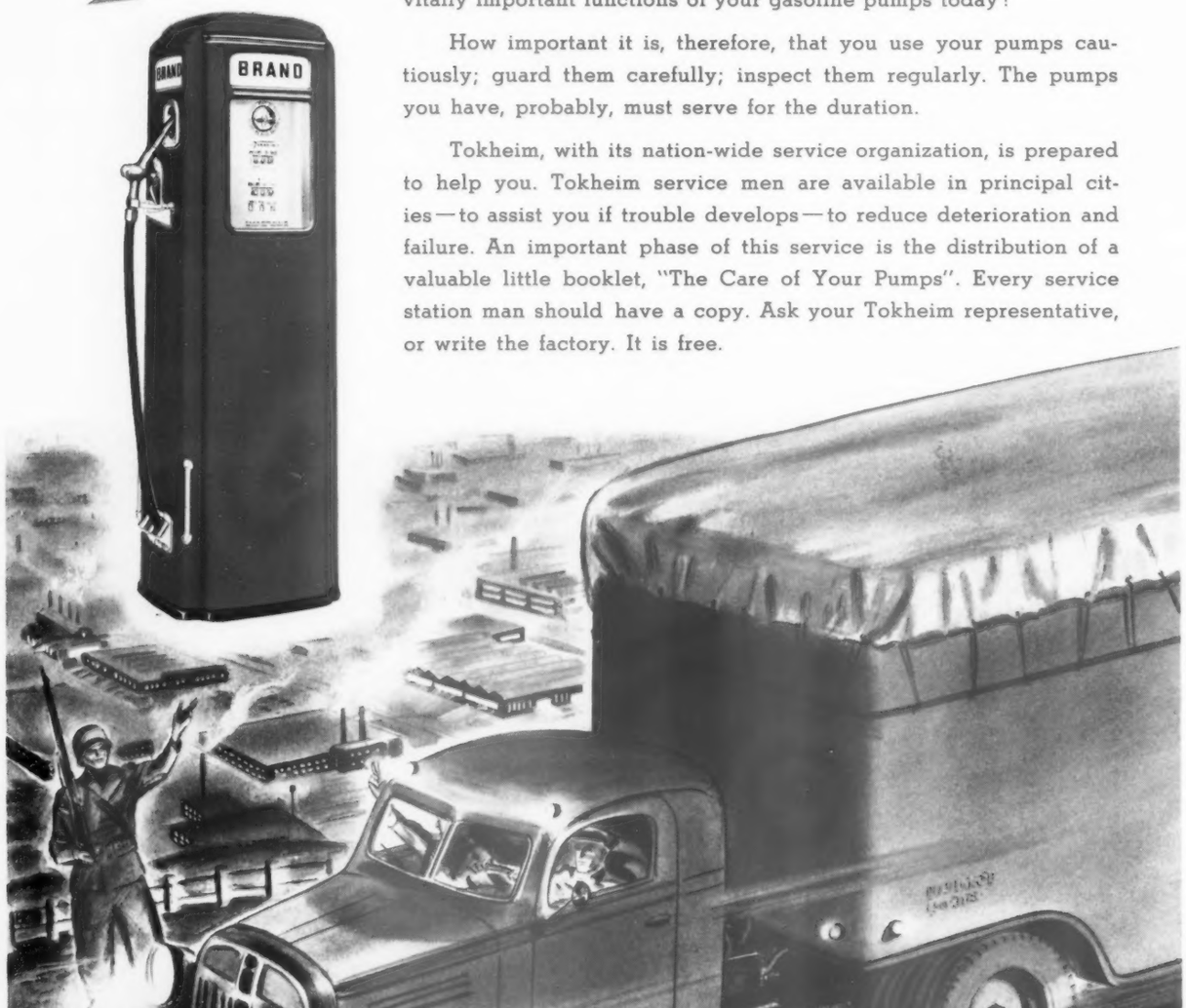

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These are silent films consisting of a series of individual pictures on 35 mm. film. They can be projected through any of a number of different types of slide film projectors. The low price of this kit of films includes only the cost of production and distribution.

Arrange now for a series of meetings to give your tank-wagon drivers these important facts on preventive maintenance.

Order direct from—

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New Officers of The Asphalt Institute

Despite curtailment of shipping facilities to the Atlantic Seaboard, asphalt tonnage continued in 1942 within 2% of the record-high level of 1941, The Asphalt Institute reported at its annual meeting in March.

At this meeting, 7 vice-presidents were elected to represent the 7 regional divisions of the U.S., in addition to the Pacific Coast territory, and to bring key officials into closer touch with Institute activities. These vice-presidents are: C. W. Barbour, Allied Materials Corp.; A. M. Maxwell, Ohio Standard; Glenn Nielson, Husky Refining Co.; H. G. Nevitt, White Eagle Division, Socony-Vacuum; H. B. Pullar, Berry Asphalt Co.; F. V. Widger, The Texas Co.; and Roger Williams, Louisiana Standard.

Herbert Spencer was re-elected full-time president. Other officers elected were: James A. Blood, San Francisco, California Standard, chairman of the executive committee; George R. Christie, New York, Socony, secretary and treasurer; John N. Smith, Socony, assistant treasurer; and Bernard E. Gray, chief engineer of the Institute, now also general manager.

Herbert Spencer

On the executive committee, besides Mr. Spencer and Mr. Blood, are Mr. Barbour, Mr. Pullar, and David Waxman, Shell Oil Co.

Thirty oil and asphalt companies are members of the Institute.

Re-elected for the third time as president of the Asphalt Institute, Herbert Spencer, a founder of the institute and a former New Jersey Standard road engineer, has done much work in standardizing asphalt grades used for highways in the eastern U. S. Before joining the Jersey company, he was with the New York State Highway Department during which he traveled widely and worked with committees from various state highway departments and the U.S. Bureau of Public Roads.

Mr. Spencer is a member of the American Road Builders Assn., the Assn. of Asphalt Paving Technologists, the American Society for Testing Materials, and the Engineers Club of New York. He is married, has 2 daughters, and is a graduate of Rensselaer Polytechnic Institute.

A B.S. degree in civil engineering from Tufts College started Bernard E. Gray, New York, on the road to The Asphalt Institute, of which he is general manager and chief engineer.

He helped write, as a member of the Governor's committee, the state highway law of West Virginia in 1919, following his discharge as orientation officer of 38th artillery in World War I. He was chief of maintenance for the state during its heavy construction era.

Previously, Mr. Gray was with the Massachusetts Highway Commission on surveys and construction, then with the U.S. Bureau of Public Roads as engineer-economist and finally senior highway engineer.

He is a member of the Highway Research Board, and other similar organizations, author of many technical articles on highways and airports, and co-author of the textbook "Asphalt Pocket Reference for Highway Engineers".

The institute's new chairman of the executive committee, James A. Blood, San Francisco, has spent all of his working life—30 years—in fuel oil and asphalt with the California Standard.

He joined that company at 15 years of age, in September, 1913, as hall boy and clerk in the fuel oil department. For 7 years he was a fuel oil salesman, 4 years an asphalt salesman, and in 1930 was promoted to assistant manager of the fuel oil and asphalt division. In January, 1931, he was made manager of the division, which he is today.

In November, 1918, he joined the U.S. Naval Reserve, and served until honorably discharged in January, 1919, when he returned to the company.

Mr. Blood is a member of PAW's subcommittee on asphalt for District 5. He is also a member of the Shrine, Olympic Club, and Associated General Contractors. He is married and has two daughters.

James A. Blood

Bernard E. Gray

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